



July 13, 2006

CC-1398

Ms. Connie Bruins
Compliance Project Manager
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

**Subject: Midway Sunset Cogeneration Project 85-AFC-3C Post Certification
Amendment To Install An Evolution Rotor In Unit A**

Dear Ms. Bruins:

Please find attached two (2) copies of a request for a post certification amendment to the Midway Sunset Cogeneration Project 85-AFC-3C. Also attached are two (2) copies of: Unit A's current APCD permit; the District's notice of complete application for Project Number S-1055604; the District's notice of potential Federal PSD applicability for District Project Number S-1055604; and District/MSCC correspondence pertinent to the application.

The installation of the evolution rotor will increase Unit A's efficiency by improving the flow across the rotor blades resulting in increased power output and a lower heat rate.

Based on our review of the requested amendment, the project will continue to comply with all applicable laws, ordinances, regulations and standards; and other than reducing emissions, will produce no significant environmental impacts.

Thanks for your help and consideration in this matter. If you have any questions or comments concerning the requested amendment please contact Ed Western at (661) 768-3020 or me at (661) 768-3016.

Sincerely,

A handwritten signature in cursive script that reads "Ray Smith".

Ray Smith
Compliance Manager

cc: File CC-1398
E Western
G Jans
J Alvidres

**San Joaquin Valley
Unified Air Pollution Control District**

Best Available Control Technology (BACT) Guideline 3.4.2*

Last Update: October 1, 2002**

Emission Unit: Gas Turbine - >_ 50 MW, Uniform Load, with Heat Recovery

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
NO _x	2.5 ppmv dry @ 15 % O ₂ (1-hr average, excluding startup and shutdown), (Selective catalytic reduction, or equal)	2.0 ppmv dry @ 15% O ₂ (1-hr average, excluding startup and shutdown), (Selective catalytic reduction, or equal)	
VOC	2.0 ppmv @ 15 % O ₂	1.5 ppmv @ 15% O ₂	
P M ₁₀	Air inlet filter cooler, Tube oil vent coalescer and natural gas fuel, or equal		
SO _x	1. PUC-regulated natural gas or 2. Non-PUC-regulated gas with no more than 0.75 grams S/100 dscf, or equal.		
CO	6.0 ppmv @ 15 % O ₂ (Oxidation catalyst, or equal)	4.0 ppmv @ 15 % O ₂ (Oxidation catalyst, or equal)	

** Applicability lowered to > 50 MW pursuant to CARB Guidance for Permitting Electrical Generation Technologies. Change effective 10/1/02. Corrected error in applicability to read 50 MW not 50 MMBtu/hr effective 4/1/03.

***This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**

San Joaquin Valley Air Pollution Control District **RECEIVED**

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www.valleyair.org

Permit Application For:

SJVAPCD
Southern Region

- ☐ AUTHORITY TO CONSTRUCT (ATC) - New Emission Unit
☒ AUTHORITY TO CONSTRUCT (ATC) - Modification Of Emission Unit With Valid PTO/Valid ATC

1. PERMIT TO BE ISSUED TO: Aera Energy LLC	
1. MAILING ADDRESS: STREET/P.O. BOX: 10000 Mine Ave. P.O. Box 11164	
CITY: Bakersfield	STATE: CA ZIP CODE 93389-1164
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: STREET: 3466 W. Crocker Sprinea Rd. City: Fellows S.E. a SECTION 17 TowNsw 31S RANGE 22E WMin 1,000 FT OF A SCHOOL? [X] YES [] NO S.I.C. CODE(S) OF FACILITY (lfkwwn): 4931	
4. GENERAL NATURE OF BUSINESS: Cogeneration – Generate electricity and steam INSTALL DATE: Feb. 2007	
5. TIME V PERMIT HOLDERS ONLY: Do you request a COC (EPA Review) prior to receiving your ATC (/yes, / X] YES [] NO lean co late and attach a Co Nana C cotton(TVFORM-009)?	
6. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit Vs if j mown, and use additional sheets if necessary) Please see attachment 1.	
7. PERMIT REVIEW PERIOD: Do you request a three- or ten-day period to review the draft Authority to Construct permit? Please note that checking "YES" will delay issuance of your final permit by a corresponding number of world days. See instructions for more infortnation on this review <input type="checkbox"/> 3-day review <input checked="" type="checkbox"/> 10-day review No review requested	
8. HAVE YOU EVER APPLIED FOR AN ATC OR PTO IN THE PAST? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If ATC/PTO #: S-I 224-2	Optional Section 1. CHECK WHETHER YOU ARE A 5 THESE VOLUNTARY PROGRAMS: "SPARE THE AIR" <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Send info "INSPECT" <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Send info 1~Sp
9. HAVE ALL NECESSARY LAND-USE AUTHORIZATIONS BEEN OBTAINED? (/ "No" is checked, please attach explanation) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
10. IS THIS APPLICATION SUBMITTED AS THE RESULT OF EITHER A NOTICE OF VIOLATION OR A NOTICE TO COMPLY? If NOV/MTC <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
12. TYPE OR PRINT NAME OF APPLICANT: Edmond R. Western TITLE OF APPLICANT: Executive Director	
13. SIGNATURE OF APPLICANT: _____ DATE: _____ PHONE #: (661) 768-3020 FAX #: (661) 768-4570 E-MAIL: _____	

FOR APCD USE ONLY:

DATE STAMP:

FILING FEE
RECEIVED: **5**
DATE PAID:

CHECK #:

PROJECT#: **3 (035(00q**

FACILITY ID: **5— 113**

Northern Regional Office • 4230 Kiernan Avenue, Suite 130 • Modesto, California 95356-9321 • (209) 557-6400 FAX (209) 517-6400
Central Regional Office • 1990 East Gettysburg Avenue • Fresno, California 93726-0244 • (559) 230-5900 • FAX (559) 230-6061
Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, California 93301-2370 • (661) 326-6900 FAX (661) 326-6985

**San Joaquin Valley
Unified Air Pollution Control District**

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

1 . T Y P E O F P E R M I T A C T I O N (Check appropriate box)

☒ SIGNIFICANT PERMIT MODIFICATION
☐ MINOR PERMIT MODIFICATION

☐ ADMINISTRATIVE
AMENDMENT

COMPANY NAME:	FACILITY ID: —
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner:	

11. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** circles for confirmation):

☐ ☐ ☐ ☐ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s). Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis. Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted. Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the foregoing is correct and true:

Signature of Responsible Official

Date

Name of Responsible Official (please print)

Title of Responsible Official (please print)

Invoice Detail

Facility ID: S1135

AERA ENERGY LLC
HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

Invoice Nbr: S58622
Invoice Date: 1/18/2006
Page: 1

Application Filing Fees

Project Nbr Permit Number	Description	Application Fee
S1055604 S-1135-224-23	MODIFICATION OF 75 MW COGENERATION UNIT A WITH GE MODEL G7111E FRAME 7E GAS TURBINE ENGINE WITH DRY LOW NOX COMBUSTORS AND SELECTIVE CATALYTIC REDUCTION (SCR) AND UNFIRED HEAT RECOVERY STEAM GENERATOR (HRSG): REPLACE COMPRESSOR SHELL AND ROTOR AND INCREASE HEAT INPUT RATING AND POWER OUTPUT RATING	\$ 60.00

Total Application Filing Fees: \$ 60.00



This petition for a post - certification amendment for MSCC is being submitted under the provisions of Section 1769 of Title 20, California Administrative Code (CEC Rules of Practice and Procedure and Power Plant Site Certification Regulations) to seek modifications to the Air Quality Conditions of Certification. The petition is organized to address the informational requirements of Section 1769 in the order they appear in that section. The requirement appears in ***bold italics*** followed by a narrative response.

(A) A complete description of the proposed modifications, including new language or any conditions that will be affected.

(A) Midway Sunset Cogeneration Company ("MSCC") proposes to install a new compressor rotor in it's "A" turbine. The Evolution Rotor is a new General Electric design, and at the time of this submittal is undergoing preliminary runs in its test facility. The installation is scheduled during Unit A's major inspection scheduled for March, 2007.

The new rotor will require a new bell mouth, compressor casing, and new rotor and stator blades. Piping in the vicinity of or coming off the compressor casing will have to be modified. The new rotor is projected to increase output by 9% (7MW) and reduce the heat rate by 1 ½ % ($175 \frac{\text{BTU}}{\text{KWH}}$) by increasing compressor efficiency and the flow through the turbine by 8%. Foundations or anchorages will not be affected. The power end of the turbine, the air inlet, exhaust ducting or the HRSG will not be changed. There will be no effect on any environmental category with the possible exception of the air emissions.

MSCC is sure it can meet the existing Permit to Operate conditions that have been imposed by the CEC and the SJVAPCD, even with an 8% increase in exhaust flow rate. However, because there is a potential to emit greater amounts of NO_x, CO, and VOCs, the SJVAPCD, under their rules, has requested that the limits for Unit A be changed as follows:

	Current		with Evolution Rotor	
	ppm	lbm/hr	ppm	lbm/hr
NO _x	5	17.66	2	7.06
CO	25	54.91	6	13.18
VOC		9.0		9.0

The SJVAPCD has actually asked for 4 ppm CO which is the Lowest Achievable Emission Rate (LAER) and MSCC has requested the 6 ppm limit which is BACT. MSCC is requesting the BACT CO standard of 6.0 ppm based on the \$1200 cost per ton of CO for installed CO catalyst and increased operating costs required to reach 4.0 ppm. The \$1200 cost per ton of CO is not cost effective compared to the BACT guideline of \$300 per ton CO. The District is considering our request as they are reviewing the changes in the submittal. The District is requiring that Unit "A" meet the current NO_x BACT of 2 ppm. The turbine units and HRSGs were built in the 80's and the SCR catalysts had to be inserted into those older units. Also, the SCR was not designed to meet a 2 ppm standard. Therefore, MSCC has requested from the District, and is requesting from the CEC the same short-term excursion exception during steady state operations given by the District to the Walnut Energy Center Frame 7EA turbines in Turlock, CA. Short term excursions are defined as 15-minute periods designated by the owner/operator (and approved by the SJVAPCD) that are the direct result of transient load conditions, not to exceed four consecutive 15 minute periods, when the 15 minute average NO_x concentration exceeds 7.06 ^{lbm}/hr. The maximum one hour average NO_x concentration for periods that include short term excursion shall not exceed 106 ^{lbm}/hr.

Examples of transient load conditions include, but are not limited to, the following: (1) initiation or shutdown of combustion turbine inlet air cooling, and (2) rapid combustion turbine load changes or rapid changes in BTU content of the fuel gas. All emissions during short term excursions shall accrue towards the hourly, daily, and annual emissions limitations of this conditions and shall be included in all calculations of hourly, daily and annual emission rates as required by these conditions.

In reviewing the Air Quality Conditions of Certification, only AQ-18 will need to be changed and only for MSCC's Unit "A". Units "B" & "C" will continue under the September 9, 2003 CEC approved condition limits. Both the current limits for Units "B" & "C" and the new proposed limits, in bold, for Unit A are shown below.

AQ-18 Emission Limits

	Units A, B & C	Unit A*
	<u>Current</u>	<u>Proposed</u>
Particulates	9.98 ^{lbm} /hr	9.98 ^{lbm} /hr
Sulfur Compounds	.92 ^{lbm} /hr	.92 ^{lbm} /hr
Oxides of Nitrogen	17.66 ^{lbm} /hr **	7.06 ^{lbm} /hr
Hydrocarbons (non CH4)	9.00 ^{lbm} /hr	9.0 ^{lbm} /hr
Carbon Monoxide	54.91 ^{lbm} /hr	13.18 ^{lbm} /hr

***1. NO_x emission concentrations during steady-state operation shall not exceed 7.06 ^{lbm}/_{hr} over a one-hour average (clock-hour basis). Steady-state period refers to any period that is not a startup or shutdown period. A clock hour in a one-hour average will commence at the top of the hour.**

***2. Compliance with the NO_x emission limitations during steady-state operation shall not be required during short-term excursions limited to a cumulative total of 10 hours per rolling 12-month period. Short-term excursions are defined as 15 minute periods designated by the owner/operator (and approved by the SJVAPCD) that are the direct result of transient load conditions, not to exceed four consecutive 15-minute periods, when the 15-minute average NO_x concentration exceeds 7.06 ^{lbm}/_{hr}. The maximum one-hour average NO_x concentration for periods that include short-term excursions shall not exceed 106 ^{lbm}/_{hr}.**

***3. Examples of transient load conditions include, but are not limited to, the following: (1) initiation or shutdown of combustion turbine inlet air cooling, and (2) rapid combustion turbine load changes. All emissions during short-term excursions shall accrue towards the hourly, daily, and annual emissions limitations of these conditions and shall be included in all calculations of hourly, daily, and annual mass emission rates as required by these conditions.**

*These conditions only apply to Unit A with the Evolution Rotor.

**The September 9, 2003 limit was 18.04 ^{lbm}/_{hr} but this has subsequently been lowered to the current 17.66 ^{lbm}/_{hr}.

Testing of the emissions on Unit A will be accomplished within the 60 day window as required by this condition.

(B) A discussion for the necessity for the Proposed Modifications

Compressor rotors of GE Frame 7 E units are generally run for up to 200,000 hours. However conditions or economic considerations may provide for a need to change the rotors out more quickly. Sycamore, Kern River, and Watson Cogens, all with Frame 7 E units, have already changed out their compressor rotors. A few have even had failures prior to the 200,000 hour projected run time. Unit A's next major will occur in March, 2007. At that time, the unit will have slightly over 150,000 hours. Therefore, Unit A would reach 200,000 hours just before the next scheduled major. In addition, GE's 9% output improvement and 1 ½ % heat rate decrease makes the March, 2007, major the ideal time to change out the rotor. Changing out the rotor at this time also reduces the risk

the original rotor might experience a failure at or near the 200,000 hour mark.

(C) If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time.

The Evolution rotor is a newly designed rotor and is just now undergoing its initial runs in the test facility. MSCC will be getting serial No. 1 for this new rotor. This design was not even thought of between 1985 and 1987 when MSCC was going through the certification process for 85-3.

(D) If the modifications is based on new information that changes or undermines the assumptions, rational findings, or other bases of the final decision, an explanation of why the changes should be permitted.

The new information or results from installing the rotor should not affect the assumptions rational findings, or other bases of the decision except to make the certification better. It will lower the emission limits thereby improving air quality and increase thermal efficiency by lowering the heat rate.

(E) An analysis of the impacts the modifications may have on the environment and proposed measures to mitigate any significant adverse impacts.

There are no known significant adverse impacts. Conversely, there should be an air quality improvement and a reduction of fuel gas burned per unit of electrical power generated.

(F) A discussion of the impact of the modification on the facilities ability to comply with applicable laws, ordinances, regulations and standards

Since nothing in the plant is changing except for the rotor, all applicable, laws, ordinances, regulations and standards should continue to be met. Since the NO_x and CO emission limits are being lowered to the current BACT standards, this will be the most difficult of the regulations or orders to meet. However, preliminary tests indicate MSCC can meet the emission limits.

(G) A discussion of how the modification affects the public.

The public will benefit by having improved air quality from NO_x and CO emission limit reductions. There will be a slight decrease of gas that is imported into the state because of the improvement in heat rate.

(H) A list of property owners potentially affected by the modifications

The offset property owners are as follows:

West - Bidart Brothers – Ranching Operations (no residence)
North – Chevron – Oil Operations
South – Aera Energy – Oil Operations
East – Plains Oil – Oil Operations

The nearest residences (3 of them) are two miles away, are occupied by oil field workers, and are in the heart of the oil field. The nearest small town is approximately 4 miles away, and the nearest school is 6 miles away.

(I) A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings.

There will be no visible changes whatsoever as the turbine rotor will fit within the current turbine enclosure. There will be an air quality improvement but, in general, will not be noticeable. There should be no outward change to adjacent property owners or the general public.



San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: S-1135-224-22

ISSUANCE DATE: 11/24/2004

LEGAL OWNER OR OPERATOR: AERA ENERGY LLC
MAILING ADDRESS: P O BOX 11164
BAKERSFIELD, CA 93389-1164

LOCATION: HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

SECTION: 17 TOWNSHIP: 31S RANGE: 22E

EQUIPMENT DESCRIPTION:

MODIFICATION OF 75 MW COGENERATION UNIT A WITH GE MODEL G7111E FRAME 7E GAS TURBINE ENGINE WITH DRY LOW NOX COMBUSTORS AND UNFIRED HEAT RECOVERY STEAM GENERATOR (HRSG): ESTABLISH SHARED SLC LIMITS FOR UNITS S-1135-115, -119, -122, -123, -224, -225, AND -226 ONLY

CONDITIONS

1. This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule] Federally Enforceable Through Title V Permit
2. Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. CTG exhaust after the SCR unit shall be equipped with continuously recording emissions monitors dedicated to this unit for NOx, CO, and O2. Continuous emissions monitors shall meet the requirements of 40 CFR Part 60, Appendices B and F, and 40 CFR Part 75, and shall be capable of monitoring emissions during startups and shutdowns as well as normal operating conditions. If relative accuracy of CEM(s) cannot be demonstrated during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained from source testing to determine compliance with emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 326-6900 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

DAVID L. CROW, Executive Director / APCO

DAVID WARNER, Director of Permit Services

S: 11/24/2004 8:29AM - TOMLIN'S Joint Inspection NOT Required

Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, CA 93301-2370 • (661) 326-6900 • Fax (661) 326-6985

4. CTG shall be equipped with a continuously recording emission monitor preceeding the SCR module measuring NO_x concentration for the purposes of calculating ammonia slip. Permittee shall check, record, and quantify the calibration drift (CD) at two concentration values at least once daily (approximately 24 hours). The calibration shall be adjusted whenever the daily zero or high-level CD exceeds 5%. If either the zero or high-level CD exceeds 5% for five consecutive daily periods, the analyzer shall be deemed out-of-control. If either the zero or high-level CD exceeds 10% during any CD check, analyzer shall be deemed out-of-control. If the analyzer is out-of-control, the permittee shall take appropriate corrective action and then repeat the CD check. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Ammonia injection grid shall be equipped with operational ammonia flowmeter and injection pressure indicator. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Heat recovery steam generator design shall provide space for additional selective catalytic reduction catalyst and oxidation catalyst if required to meet NO_x and CO emission limits. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Permittee shall monitor and record exhaust gas temperature at selective catalytic reduction and oxidation catalyst inlets. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Ammonia shall be injected whenever the selective catalytic reduction system catalyst temperature exceeds the minimum ammonia injection temperature recommended by the manufacturer. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Gas turbine engine shall be equipped with fuel consumption monitor recorder accurate to +/- 3%. [District Rule 2201] Federally Enforceable Through Title V Permit
10. CEM for NO_x (as NO₂) and CO shall conform to Rule 1080 specifications. [District Rules 1080 and 4703] Federally Enforceable Through Title V Permit
11. HRSG exhaust stack shall be equipped with permanent stack sampling provisions adequate to facilitate testing consistent with EPA test methods. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Flue gas ducting from engine to HRSG shall have no provisions for introduction of dilution air. [District Rule 1110] Federally Enforceable Through Title V Permit
13. Lube oil cooler/accumulation vent shall be equipped with control device(s) approved by the APCO sufficient to prevent emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Lube oil cooler/accumulator vent(s) shall not have detectable emissions. [District Rule 2201] Federally Enforceable Through Title V Permit
15. Natural gas sulfur content shall not exceed 0.31 gr/100 scf. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Facility shall operate as a cogeneration facility pursuant to Public Resources Code section 25134 for TEOR operations unless prior District and CEC approval is granted to operate otherwise. [District Rule 2080] Federally Enforceable Through Title V Permit
17. All CEM's shall be calibrated and operated according to EPA guidelines as specified in 40 CFR 60 Appendix B. [District Rule 1080] Federally Enforceable Through Title V Permit
18. Quarterly CEM reports shall be submitted to the APCO according to EPA regulations as specified in 40 CFR 60 Appendix B. [District Rule 4001 and District rule 1080, 8.0] Federally Enforceable Through Title V Permit
19. Audits of all monitors shall be conducted by independent laboratory in accordance with EPA guidelines and witnessed by District. Reports shall be submitted to District within 30 days of audits. [District Rule 1080] Federally Enforceable Through Title V Permit
20. All notification, recordkeeping, performance tests, reporting requirements, and compliance testing requirements of Rule 4001 NSPS shall be satisfied. [District Rule 4001] Federally Enforceable Through Title V Permit
21. Operational records including fuel type, fuel characteristics, and consumption shall be maintained and shall be made readily available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

22. Accurate records of NO_x (as NO_x, and CO flue gas concentration corrected to % O₂ and fuel gas sulfur content shall be maintained and shall be reported as described in Rule 1080 upon request. [District Rule 1080] Federally Enforceable Through Title V Permit
23. Emission rates shall not exceed the following: PM₁₀: 0.010 lb/MMBtu, SO_x (as SO₂): 0.001 lb/MMBtu, NO_x (as NO₂): 0.018 lb/MMBtu, VOC: 0.009 lb/MMBtu, CO: 0.057 lb/MMBtu, and ammonia - 10 ppmvd @ 15%O₂. [District NSR Rule; District Rule 4201; and Kern County Rule 404] Federally Enforceable Through Title V Permit
24. Permittee shall comply with the following emission limit at all times except during periods of thermal stabilization or reduced load as defined in Rule 4703: NO_x (as NO₂): 5.0 ppmv, and CO: 25 ppmv, dry @ 15% O₂ corrected to ISO conditions. [40 CFR 60.332(a)(1) & 60.332(a)(2) and District Rule 4703, 5.1.1] Federally Enforceable Through Title V Permit
25. Compliance with NO_x, CO and ammonia emission limits shall be demonstrated by District-witnessed sample collection by independent testing laboratory within 60 days of initial start-up and on an annual basis thereafter. [District Rule 4703 and District Rule 1081] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The following test methods shall be used PM₁₀: EPA method 5 (front half and back half), NO_x: EPA Method 7E or 20, CO: EPA method 10 (or 10B) or CARB Method 100, O₂: EPA Method 3, 3A, or 20, VOC: EPA method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rule 1081, 40 CFR 60.335 (b), and District Rule 4703, 6.4] Federally Enforceable Through Title V Permit
28. Compliance with ammonia slip limit shall be demonstrated by using the following calculation procedure: ammonia slip ppmv @ 15% O₂ = ((a-(bxc/1,000,000)) x 1,000,000 / b) x d, where a = ammonia injection rate(lb/hr)/17(lb/lb. mol), b = dry exhaust gas flow rate (lb/hr)/(29(lb/lb. mol), c = change in measured NO_x concentration ppmv at 15% O₂ across catalyst, and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. [District Rule 4102]
29. Official test results and field data shall be submitted within 30 days after collection. [District Rule 4703 and District Rule 1081] Federally Enforceable Through Title V Permit
30. Combined annual emissions from units S-1135-115, S-1135-119, S-1135-122, S1135-123, S-1135-224, S-1135-225, S-1135-226 shall not exceed any of the following: PM₁₀ - 262,360 lb/yr, SO_x (as SO₂) - 24,200 lb/yr, NO_x (as NO₂) - 464,170 lb/yr, VOC - 236,520 lb/yr, or CO - 1,443,101 lb/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
31. The permittee shall maintain records of fuel type, quantity, heating value of gas burned, permitted emission factors and annual emissions for each unit. For units equipped with continuous emissions monitors (CEMs), CEM data may be used in place of calculated emissions. If CEM shows a violation, CEM data shall be used. Records shall be updated at least monthly. Reports of annual emissions and fuel usage shall be submitted within 30 days after the end of the calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
32. If fuel use monitoring provisions fail, emissions shall be calculated based on operational data, or if not available, on set equal to the average of four days prior to failure. [District NSR Rule] Federally Enforceable Through Title V Permit
33. When three gas turbine engines S-1135-224, '-225, and '-226 are operating, four steam generators S-1135-115, '-119, '-122, and '-123 shall be shut down. [District NSR Rule] Federally Enforceable Through Title V Permit
34. When up to two gas turbine engines S-1135-224, '-225, or '-226 are operating, four steam generators S-1135-115, '-119, '-122, and '-123 may be operated. [District NSR Rule] Federally Enforceable Through Title V Permit
35. The permittee shall maintain records of operational status of units S-1135-115, S-1135-119, S-1135-122, S1135-123, S-1135-224, S-1135-225, and S-1135-226 on a daily basis. [District Rule 2201] Federally Enforceable Through Title V Permit
36. All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 1070] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

37. CEC emission rates, except during periods of thermal stabilization or reduced load as defined in Rule 4703, shall not exceed PM10: 9.98 lb/hr, SOx (as SO2): 0.92 lb/hr, NOx (as NO2): 17.66 lb/hr, VOC: 9.00 lb/hr, and CO: 54.91 lb/hr. [District Rules 2080 and 4703, and 40 CFR 60] Federally Enforceable Through Title V Permit
38. For CEC purposes, emissions during periods of startup and shutdown shall not exceed the following values average over 2 hours: NOx: 140 lb/hr, and CO: 94 lb/hr. [District Rule 2080] Federally Enforceable Through Title V Permit
39. The CEC shall be notified of any changes to the combined annual emission limits for steam generators S-1135-115, -119, -122, and -123, and cogeneration units S-1135-224, -225, and -226, only to the extent to be informed of their impact on the Midway-Sunset Cogeneration Facility. [District Rule 2080] Federally Enforceable Through Title V Permit
40. Results of continuous emissions monitoring must be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [Kern County Rule 108 and District Rule 1080] Federally Enforceable Through Title V Permit
41. Records shall be maintained and shall contain: the occurrence and duration of any start-up, shutdown or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance of any CEM's that have been installed pursuant to District Rule 1080, and emission measurements. [Kern County Rule 108; District Rule 1080; 40 CFR 60.7 (b)] Federally Enforceable Through Title V Permit
42. The permittee shall maintain hourly average records of NOx and CO emissions. Compliance with the hourly, daily, and twelve month rolling average VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests of NOx, CO, and ammonia emission concentrations (ppmv @ 15% O2), and hourly, daily, and twelve month rolling. [District Rule 2201] Federally Enforceable Through Title V Permit
43. A violation of NOx emission standards indicated by the NOx CEM shall be reported by the operator to the APCO within 96 hours. [Kern County Rule 108 and District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
44. Operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEM. The operator shall inform the APCO of the intent to shut down the CEM at least 24 hours prior to the event. [Kern County Rule 108 and District Rule 1080, 10.0] Federally Enforceable Through Title V Permit
45. Emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081 (Amended December 16, 1993), of 3 thirty-minute test runs for NOx and CO. [District Rule 1081] Federally Enforceable Through Title V Permit
46. Unit shall be fired on a natural gas which has a sulfur content of less than or equal to 0.017% by weight. [40 CFR 60.333 (a) & (b); 40 CFR 60.334 (c)(2); Kern County Rule 407; and District Rule 4801] Federally Enforceable Through Title V Permit
47. If the turbine is fired on PUC-regulated natural gas, then maintain on file copies of natural gas bills. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
48. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using method(s) specified on this permit. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
49. If the turbine is not fired on PUC-regulated natural gas, then the sulfur content of the natural gas being fired in the turbine shall be determined using ASTM method D 1072, D 3031, D 4084 or D 3246, or double GC for H2S and mercaptans. [40 CFR 60.335 (d)] Federally Enforceable Through Title V Permit
50. If the turbine is not fired on PUC-regulated natural gas, the sulfur content of each fuel source shall be tested weekly except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be semi-annually. If a test shows noncompliance with the sulfur content requirement, the source must return to weekly testing until eight consecutive weeks show compliance. [40 CFR 60.334 (b)(2)] Federally Enforceable Through Title V Permit
51. Operator shall submit a semiannual report listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeds 0.8% by weight. [40 CFR 60.334(a)(2)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

52. HHV and LHV of the fuel shall be determined using ASTM D3588, ASTM 182 OR ASTM 1945. [40 CFR 60.332 (a),(b) and District Rule 4703, 6.4.5] Federally Enforceable Through Title V Permit
- The operator shall provide source test information annually regarding the exhaust gas NO_x concentration corrected to 15% O₂ (dry). [40 CFR 60.332 (a),(b) and District Rule 4703, 5.1] Federally Enforceable Through Title V Permit
54. Results of continuous emission monitoring must be averaged in accordance with the requirements of 40 CFR 60.13. [40 CFR 60.334 (a),(b),(c) and District Rule 4703, 5.0] Federally Enforceable Through Title V Permit
55. Operator shall maintain a stationary gas turbine operating log that includes, on a daily basis the actual local start-up and stop time, length and reason for reduced load periods, total hours of operation and quantity of fuel used. [40 CFR 60.332 (a),(b) and District Rule 4703, 6.2.4] Federally Enforceable Through Title V Permit
56. This unit is a simple combustion turbine as defined in 40 CFR 72.6 (b)(1) and shall not be subject to the requirements of 40 CFR Part 72. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
57. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: Kern County Rules 404, 108, and 108.1. A permit shield is granted from these requirements. [SJVUAPCD Rule 2520, 13.2] Federally Enforceable Through Title V Permit
58. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: Kern County Rule 407; District Rules 4801, 4201, 1081, and 1080, Sections 6.5, 7.2, 8.0, 9.0, and 10.0; 40 CFR 60.332 (c) and (d); 60.334 (b), (c)(2); 60.335(d). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
59. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following applicable requirements: District Rule 4703, sections 5.0, 5.1.1, 6.2.1, 6.2.4, 6.3, 6.4.1, 6.4.3, 6.4.5, and 6.4.6. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
60. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: District Rules 1080, 7.3 and 4703, 6.2.2; 40 CFR 60.332(a), (b); 60.333(a) and (b), 60.334(a), (b), and (c)(1); 60.335(a), (b) and (c)(2). A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit
61. The requirements from the revision of PSD permit SJ-87-01 shall become invalid (1) if construction of the modification is not commenced (as defined in 40 CFR 52.21(b)(8)) within 18 months after the approval takes effect, (2) if construction is discontinued for a period of 18 months or more, or (3) if construction of the modification is not complete within a reasonable time. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
62. The permittee (MSCC) must notify EPA in writing of the anticipated date of the initial startup (as defined in 40 CFR 60.2) of the power plant not more than sixty (60) days nor less than thirty (30) days prior to such date and must notify EPA in writing of the actual date of commencement of construction and startup within fifteen (15) days after each date. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
63. All equipment, facilities, and systems installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
64. The Permittee (MSCC) must notify EPA by telephone, facsimile, or electronic mail transmission within two (2) working days following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in conditions 85-112 of this permit unit. In addition, the Permittee (MSCC) must notify EPA in writing within fifteen (15) days of any such failure. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in conditions 85-112, and the methods utilized to mitigate emissions and restore normal operations. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or of any law or regulation that such malfunction may cause, except as provided for in Conditions 76-80 of this permit. [PSD SJ-87-01] Federally Enforceable Through Title V Permit

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65. A malfunction means a sudden and unavoidable breakdown of equipment or of process beyond the reasonable control of the source. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
- Emissions in excess of the limits specified in conditions 85-112 of this permit shall constitute a violation and may be the subject of enforcement proceedings. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
67. Affirmative defense: In the context of an enforcement proceeding, emissions which are below the limits set forth in this condition shall not be subject to penalty if the Permittee (MSCC) retains properly signed, contemporaneous operating logs or other relevant evidence and can demonstrate all of the following: i.) A malfunction caused the emissions in excess of the limits in conditions 90-93; ii.) The permitted facility, including the air pollution control equipment and process equipment, was being properly operated at the time of the malfunction; iii.) Preventative maintenance was regularly performed in a manner consistent with good practice for minimizing emissions; iv.) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; v.) During the period of the malfunction, the permittee (MSCC) took all reasonable steps to minimize the amount and duration of emissions (including any bypass) that exceeded the emission limits provided in condition 85-112. Reasonable steps to minimize emissions could include, but are not limited to, reducing production to the lowest level practicable, reducing the material feed that results in the increased emissions, and switching to alternative, less polluting fuels. Where repairs were required, repairs were made in an expeditious fashion when the operator knew or should have known that applicable emission limitations were being exceeded. Off-shift labor and overtime must have been utilized, to the extent practicable, to ensure that such repairs were made as expeditiously as possible; and vi.) The permittee (MSCC) complied with the malfunction reporting requirements of Conditions 75 of this permit. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
68. All emissions, including those associated with a malfunction which may be eligible for an affirmative defense, must be included in all emissions calculations and demonstrations of compliance with mass emission limits (e.g., daily, monthly, and annual emission limits) specified in this permit. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
69. This provision is in addition to any emergency or malfunction provision contained in any applicable requirement or elsewhere in this permit. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
70. The EPA Regional Administrator, and/or their authorized representative, upon the presentation of credential, must be permitted: (1) to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of the PSD permit SJ-87-01; and (2) at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this ATC; and (3) to inspect any equipment, operation, or method required in the PSD permit SJ-87-01; and (4) to sample emissions from source(s). [PSD SJ-87-01] Federally Enforceable Through Title V Permit
71. In the event of any changes in control or ownership of facilities to be constructed or modified, this permit shall be binding on all subsequent owners and operators. The Permittee (MSCC) shall notify the succeeding owner and operator of the existence of the PSD permit SJ-87-01 and its conditions by letter, a copy of which shall be forwarded to the EPA. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
72. The provisions of the PSD permit SJ-87-01 are severable, and, if any provisions of the permit is held invalid, the remainder of the permit must not be affected thereby. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
73. The permittee (MSCC) must construct and operate the proposed power plant in compliance with all other applicable provisions of 40 CFR Parts 52, 60, 62, and 63 and all other applicable Federal, State, and local air quality regulations. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
74. The Permittee (MSCC) must notify the EPA in writing of compliance with Conditions 86 and 95 below, and must make such notification within fifteen (15) days of such compliance. The letter must be signed by a responsible official of the Permittee (MSCC). [PSD SJ-87-01] Federally Enforceable Through Title V Permit
75. On or before the date of startup (as defined in 40 C.F.R. 60.2) of the Western Midway Sunset Cogeneration Project (WMSCP; PSD Permit No. SJ-00-01) and thereafter the Permittee (MSCC) must install, continuously operate, and maintain the Dry Low NOx (DLN) combustion systems to reduce NOx emissions from each of its three turbines. The Permittee (MSCC) shall also use proper combustion techniques for the control of CO emissions from the equipment at MSCP. [PSD SJ-87-01] Federally Enforceable Through Title V Permit

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76. Within 60 days after achieving the base load, but no later than 180 days after initial startup of all three modified turbines (as defined in 40 C.F.R. 60.2), and annually thereafter (at about the anniversary of the initial performance test), the Permittee (MSCC) must conduct performance tests (as described in 40 C.F.R. 60.8) for NO_x and CO on the exhaust stack gases. The Permittee (MSCC) must furnish the District, the California Air Resources Board (CARB), and the EPA a written report of the results of such tests. Upon written request from the Permittee (MSCC), and adequate justification, EPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity. [PSD SJ 87-01] Federally Enforceable Through Title V Permit
77. Performance tests for the emissions of NO_x and CO must be conducted and the results reported in accordance with the test methods set forth in 40 C.F.R. 60.8 and 40 C.F.R. 60, Appendix A. The following test methods must be used: a.) Performance tests for the emissions of NO_x must be conducted using EPA Method 1-4 and 7E. b.) Performance tests for the emissions of CO must be conducted using the EPA Methods 1-4 and 10. In lieu of the above-mentioned test methods, equivalent methods may be used with prior written approval from EPA. The Permittee (MSCC) must notify EPA in writing at least 30 days prior to such tests to allow time for the development of an approvable performance test plan and to arrange for an observer to be present at the test. [PSD SJ 87-01] Federally Enforceable Through Title V Permit
78. For performance test purposes, sampling ports, platforms, and access must be provided by the Permittee on the emission unit exhaust system in accordance with 40 C.F.R. 60.8(e). [PSD SJ 87-01] Federally Enforceable Through Title V Permit
79. On and after the date of startup of the WMSCP (PSD Permit No. SJ-00-01), the Permittee (MSCC) must not discharge or cause the discharge of CO into the atmosphere in excess of the following emission limits per turbine: The more stringent of 25 ppmvd @ 15% O₂ or 55 pounds per hour, based on 3-hour rolling average. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
80. This condition applies prior to the startup of the WMSCP: On and after the date of start up any of the three turbines at MSCP must not discharge (per turbine, and based on 3-hour rolling average) into the atmosphere CO in excess of the following of any of: 1.) The more stringent of 52.0 ppmvd @ 15% O₂ or 94 pounds for loads greater than or equal to 75%. 2.) The more stringent of 62.0 ppmvd @ 15% O₂ or 94 pounds for loads greater than or equal to 35% but less than 75%. 3.) 94 pounds per hour for loads less than 35%. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
81. On and after the date of startup of the WMSCP (PSD Permit No. SJ-00-01), the Permittee (MSCC) must not discharge or cause the discharge of NO_x into the atmosphere in excess of the following emission limits per turbine: The more stringent of 10 ppmvd @ 15% O₂ or 36.1 pounds per hour, based on 3-hour rolling average. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
82. This condition applies prior to the startup of the WMSCP: On and after the date of start-up of any of the three turbines, MSCC must not discharge (per turbine, based on 3-hour rolling average) into the atmosphere NO_x (as NO₂) in excess of the following: 1.) The more stringent of 25.0 ppmvd @ 15% O₂ or 85.0 pounds per hour for loads greater than or equal to 75%; 2.) The more stringent of 42.0 ppmvd @ 15% O₂ or 85 pounds per hour for loads greater than or equal to 35% but less than 75%; 3.) 85 pounds per hour for loads less than 35%. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
83. The hourly (3-hour averaging) emissions must not exceed: 1.) 94 pounds of CO and 85 pounds of NO_x; 2.) All CEMs must be operating during startups and shut downs; 3.) The time, date and duration of each startup and shutdown event must be recorded. The records must include the lbs/hour calculations based on the CEM data. These records must be kept for five years following the date of such events. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
84. Prior to the date of startup and thereafter, the Permittee (MSCC) must install, maintain and operate the following continuous monitoring systems (CEMs) in the exhaust stacks: a.) Continuous monitoring systems to measure stack gas NO_x, CO and O₂ concentrations. The systems must meet EPA monitoring performance specification (40 C.F.R. 60.13 and 40 C.F.R. 60, Appendix B, Performance Specifications 2, 3 and 4); b.) A continuous monitoring system to measure stack gas and natural gas volumetric flow rates. The stack gas flow measurement system must meet EPA Performance Specifications for (40 C.F.R. Part 52, Appendix E). [PSD SJ-87-01] Federally Enforceable Through Title V Permit

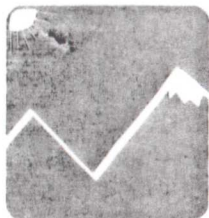
CONDITIONS CONTINUE ON NEXT PAGE

85. The Permittee (MSCC) must maintain a file of all measurements, including continuous monitoring systems evaluations; all continuous monitoring systems or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; performance and all other information required by 40 C.F.R. 60 Appendices A-B recorded in a permanent form suitable for inspection. The file must be retained for five years following the date of such measurements, maintenance, reports and records. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
86. The Permittee (MSCC) must notify EPA of the date on which demonstration for the continuous monitoring system performance commences (40 C.F.R. 60.13). This date must be no later than 60 days after full load operation but not later than 180 days after startup. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
87. In addition to reporting requirements under Condition 75 of this permit, the Permittee (MSCC) must submit a written report of all excess emissions to EPA for every calendar quarter. The quarterly report must include the following: a.) The magnitude of the excess emissions computed in accordance with 40 C.F.R. 60.13(h), any conversion factors used, and the date and time of commencement and compilation of each time period of excess emissions; b.) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of any equipment. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted must also be reported; c.) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments; d.) When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information must be stated in the report; and e.) Excess emissions must be defined as any 3-hour period during which the average emissions of CO, as measured by the CEM exceeds the maximum emission limits set forth in Condition 90-91 or any 3-hour period during which the average emissions of NOx exceed the maximum emission limits set forth in Conditions 92-93. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
88. Excess emissions indicated by the CEM system must be considered violations of the applicable emission limit for the purpose of this permit. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
89. The quality assurance project plan used by the Permittee (MSCC) for the certification and operation of the continuous emissions monitors, which meets the requirements of 40 C.F.R. Part 60, Appendix F, must be available upon request to EPA. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
90. The Permittee (MSCC) must keep a monthly record of all fuel uses. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
91. The proposed power plant is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 C.F.R. 60). The owner or operator must meet all applicable requirements of 40 C.F.R. 60 Subparts A and GG of this regulation. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
92. All three turbines will fire natural gas only. The Permittee (MSCC) must only combust pipeline quality natural gas with sulfur content (as S) below 0.75 grains per 100 dry standard cubic feet (dscf). [PSD SJ-87-01] Federally Enforceable Through Title V Permit
93. MSCC shall have legal and operational responsibility and control of all air pollutant emitting activities of the MSCP. This responsibility shall include, but shall not be limited to the following: 1.) Operating and maintaining the project to comply with all federal, state, and local air pollution laws, regulations, orders, and other requirements; 2.) Ensuring the emissions offsets, tradeoffs, or other emission reductions required for this project under permits issued by the U.S. EPA, the District, and/or the California Energy Commission are obtained as required; or 3.) Any violations of any air pollution requirements are the legal responsibility of MSCC, in addition to any other legal responsible entity. Any proposed change to this condition shall require prior written concurrence of the US EPA. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
94. In accordance with the emissions offset plan proposed by the applicant for the District (dated November 12, 1987) and the emissions offset plan for the U.S. EPA (dated July 21, 1987), Aera Energy LLC must not operate the following four steam generators (listed by District permit numbers S-1135-119, S-1135-122, S-1135-123, and S-1135-115) simultaneously with the firing of the MSCP turbines unless one or more of the MSCP turbines is shutdown: Andersen-Goodwin Lease: S-1135-119, S-1135-122, S-1135-123 and Neely Lease: S-1135-115 [PSD SJ-87-01] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

95. MSCC shall maintain a record of the date(s), time(s), and duration(s) of the shutdown of any of the above mentioned steam generators. [PSD SJ-87-01] Federally Enforceable Through Title V Permit

Aera Energy LLC shall not lease or modify the permit conditions for any of the above generators for use in the Midway Sunset Oil field, unless creditable emissions reductions (as defined in 40 C.F.R. 52.21), at a ratio of at least 1:1, are provided for emissions from those generators. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
97. Aera Energy LLC shall not modify any of the District Permit to Operate numbers. If any of the above steam generators are issued new Permit to Operate numbers by the District, Aera Energy LLC shall notify the U.S. EPA in writing of this action and shall make such notification upon issuance of a new Permit to Operate number. This letter shall include the original District Permit to Operate number(s) of the subject generator(s) and a copy of the new Permit to Operate issued by the District. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
98. Aera Energy LLC shall notify the U.S. EPA in writing of the intention to sell, or potential sale, of any of the above generators and shall make such notification prior to the District's final action of the re-permitting process associated with the sale of a generators. This letter shall include the following: a.) The subject steam generator as identified by its District Permit to Operate number; b.) The name of the buyer (as identified by the company name) of the steam generator; and c.) An estimated date of the final action of the re-permitting process by the District. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
99. The allowable incidental taking (killing, harming, or harassment) of San Joaquin kit foxes, blunt-nosed leopard lizards, and giant kangaroo rats is confined to the proposed cogeneration plant site one half mile radius around this site (on lands owned or leased by Aera Energy LLC), and associated subject cogeneration plant facilities (including pipelines, transmission lines, temporary equipment stockpiling areas, and access roads) as discussed in the project Application for Certification report (Sun Cogeneration Company and Southern Sierra Energy Company 1985). [PSD SJ-87-01] Federally Enforceable Through Title V Permit
100. MSCC is required to implement the "Agreement on Conditions for Mitigation of the Biological Impacts of the Midway-Sunset Project" as required by the U.S. Fish and Wildlife Service (USFWS) (Memorandum dated March 16, 1987 from the USFWS to the US EPA). [PSD SJ-87-01] Federally Enforceable Through Title V Permit
101. Any endangered species found dead should be turned in to the California Department of Fish and Game for Analysis. MSCC must also report this event to the USFWS. The USFWS may recommend amendment to the existing project actions pending results of the analysis. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
102. All correspondence as required by this permit shall be forwarded to: 1.) Director, Air Division (Attn: Air-3) EPA Region IX 75 Hawthorne Street San Francisco, CA 94105-3901 Tel: (415) 744-1291 Fax: (415) 744-1076; 2.) Chief, Stationary Source Division, California Air Resource Board P.O. Box 2815 Sacramento, CA 95812; and 3.) Air Pollution Control Officer, San Joaquin Valley Unified APCD 2700 M Street, Suite 275 Bakersfield, CA 93301-2370. [PSD SJ-87-01] Federally Enforceable Through Title V Permit
103. Aera Energy LLC is the legal owner of the subject steam generators and of the leases on which the steam generators are located. MSCC is the legal owner of the gas turbine cogeneration facility. MSCC is jointly owned by Sun Cogeneration Limited Partnership (Sun Cogen LP) and San Joaquin Energy Company. Sun Cogen LP is managed and controlled by a wholly owned subsidiary of Aera Energy LLC. (See Condition 104) [PSD SJ-87-01] Federally Enforceable Through Title V Permit
104. Authorities to Construct S-1135-5-27, 6-26, 8-28, 9-26, 10-25, 12-27, 13-22, 15-25, 16-25, 24-25, 26-28, 27-27, 28-27, 29-17, 115-18, 119-20, 122-20, 123-18, 224-22, 225-21, and 226-22 shall be implemented concurrently. [District Rule 2201] Federally Enforceable Through Title V Permit
105. Prior to implementation of S-1135-5-27, 6-26, 8-28, 9-26, 10-25, 12-27, 13-22, 15-25, 16-25, 24-25, 26-28, 27-27, 28-27, 29-17, 115-18, 119-20, 122-20, 123-18, 224-22, 225-21, and 226-22, Permits to Operate S-1135-1, -4, and -34 shall be cancelled. [District Rule 2201] Federally Enforceable Through Title V Permit



San Joaquin Valley
Air Pollution Control District

COPY

JUL 03 2006

Edmond R. Western, Executive Director
Midway Sunset Cogeneration Company
P O Box 457
Fellows, CA 93224-0457

JUL 10 2006
MIDWAY-SUNSET
COGENERATION

Re: Notice of Receipt of Complete Application
Project Number: S-1055604

Dear Mr. Western:

The District has received your Authority to Construct application for replacing the compressor rotor and shell and increasing the rating of a cogeneration unit from 75 MW to 82 MW, at 3466 Crocker Springs Road, near Fellows, CA. Based on our preliminary review, the application appears to be complete. This means that your application contains sufficient information to proceed with our analysis. However, during processing of your application, the District may request additional information to clarify, correct, or otherwise supplement, the information on file.

Per your request, the Authority to Construct will be issued with a Certificate of Conformity (COC). Your project will therefore go for EPA Review per District Rule 2520 for a 45-day period at the conclusion of our analysis, prior to the issuance of the final Authority to Construct. It is estimated that the project analysis will take 60 hours, and you will be charged at the weighted hourly labor rate in accordance with District Rule 3010. The current weighted labor rate is \$80.87 per hour, but please note that this fee is revised annually to reflect actual costs and therefore may change. No payment is due at this time; an invoice will be sent to you upon completion of the notice process.

We will begin processing your application as soon as possible. In general, complete applications are processed on a first-come first-served basis.

Sayed Sadeghin
Executive Director - Air Pollution Control Officer

Northern Region Office
4800 Enterprise Way
Modesto, CA 95356-8718
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
(805) 336-6000 • FAX (805) 336-6000

Mr. Western

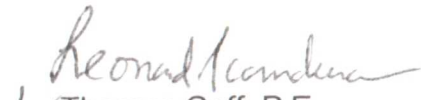
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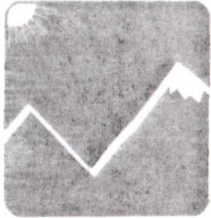
JUL 03 2006

Please note that this letter is not a permit and does not authorize you to proceed with your project. Final approval, if appropriate, will be in the form of an "Authority to Construct" permit after application processing is complete. If you have any questions, please contact Mr. Thomas Goff at (661) 326-6900.

Sincerely,

David Warner
Director of Permit Services


Thomas Goff, P.E.
Permit Services Manager
DW:svt



San Joaquin Valley
Air Pollution Control District

COPY

JUL 03 2006

Edmond R. Western, Executive Director
Midway Sunset Cogeneration Company
P O Box 457
Fellows, CA 93224-0457

JUL 10 2006
MIDWAY-SUNSET
COGENERATION

**Re: Potential Federal PSD Applicability
District Project # S-1055604
Modify Cogeneration Unit: Replace Compressor Rotor and Shell and
Increase Power Output Rating from 75 to 82 MW**

Dear Mr. Western:

This letter is to inform you that the above referenced project may trigger federal Prevention of Significant Deterioration (PSD) requirements. PSD is a pre-construction approval process that regulates pollutants for which the Valley is in attainment (i.e., nitrogen oxides, sulfur oxides, and carbon monoxide).

The San Joaquin Valley Air Pollution Control District does not have delegation from EPA to implement the federal PSD program. This letter is to inform you that your company is responsible for contacting Gerardo Rios of U.S. EPA at (415) 972-3974 for information on PSD applicability and requirements relative to this project. If PSD approval is required, you must receive EPA's PSD permit prior to construction.

Sincerely,

David Warner
Permit Services Director


Thomas E. Goff, P.E.
Permit Services Manager

DW:svt

cc:

Gerardo Rios, USEPA Reg. IX
75 Hawthorne St.
San Francisco, CA 94205

Sayed Sadreldin
Executive Director, Air Pollution Control Officer



June 26, 2006

cc-1393

Mr. Steve Tomlin
Air Quality Engineer
San Joaquin Valley Air Pollution Control District
2700 M Street, Suite 275
Bakersfield, CA 93301-2373

**Subject: Additional Data In Response Of Incomplete Application Project NO.
S-1055604**

Dear Mr. Tomlin,

MSCC has compiled the following data pursuant to the May 9, 2006 meeting with the District:

Attachment 1: A single page letter from GE stating their present position on the expected, Evolution Compressor emissions concentrations. Please note MSCC's Evolution Rotor is the first of its kind. GE has no actual empirical data but offered this data at MSCC's request based on predictive modeling. Experience has shown that GE is generally conservative with "published" data. MSCC is comfortable that the Evolution Rotor emission concentrations will remain at or below the present levels.

Attachment 2: Three pages of explanatory data submitted to the California Energy Commission (CEC) in response to 1986 workshops. These particular workshops concerned the calculation of emission reductions with Table 38-12 showing the VOC emissions reduction available for mitigation by MSCC.

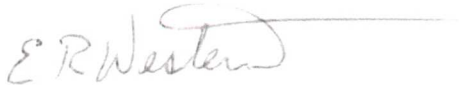
Attachment 3: A two page letter, dated October 1, 1987, from Mr. Thomas Paxson, Manager Engineering Evaluation Section, Kern County Air Pollution

Control District. The letter acknowledges that the California Air Resources Board determined that MSCC's available offsets were based on actual historical emission reductions and that the District would revise the DOC to reflect the lower emission limits.

MSCC apologizes for the slow response. Getting a company like GE to put information in writing that isn't backed up by considerable empirical data is an onerous process that MSCC eventually prevailed reflects the close working relationship between GE and MSCC. The other documentation is 20 years old and was not readily accessible.

If you have any other questions or comments, please contact me at 661-768-3020 or Ray Smith at 661-768-3016. Thanks again for your patience and consideration.

Sincerely,

A handwritten signature in cursive script, reading "E.R. Western", followed by a horizontal line extending to the right.

E.R. Western
Executive Director

cc: File MSC-1393
G. Jans
J. Alvidres

GE Energy

Gas Turbine Technology
General Electric Company
PO Box 648
300 Garlington Road, GTTL 1256
Greenville, SC 29602-0648

June 13, 2006

Mr. Greg Jans-Plant Manger
Midway Sunset Cogeneration Company
3466 Crocker Springs Rd
Fellows, CA 93224-0457

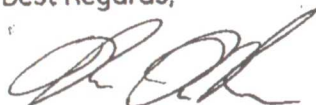
Dear Greg,

As discussed during your April 25 visit in Greenville, the upgrade to the Evolution Compressor, Phase I, scheduled to occur next calendar year on one of the 7E DLN-1 units at your Midway Sunset site, is expected to have no negative impact on Gas Turbine, GT, emissions concentrations as directly compared (same firing temperature, ambient, load) to current unit operation prior to the Evolution Compressor upgrade (at same firing temperature, fuel split, ambient, & load). The assessment performed is based on the program's latest cycle model.

During the course of the new compressor development, a predictive cycle model (Gas Turbine Performance Simulation) for the new system was generated, providing GE's expectation of temperatures, pressures, fuel flows, etc. for GT operation across the load and ambient range. Engineering design assessments were performed comparing these 7E DLN-1 Evolution Compressor Upgrade GT cycle parameters to current 7E DLN-1 GT cycle parameters. The differences in the two cycles were studied in light of those parameters that effect combustor emissions. It is concluded that concentrations (ppm) of NOx, CO, UHC's and VOC's are expected to remain at or below pre-upgraded GT levels.

Although emissions concentrations are expected to be no worse, absolute levels of emissions (lbs/hr) will increase proportionate with higher compressor flow.

Best Regards,



Kevin McMahan
Manager, Product Programs Combustion & Emissions Technology
GE Energy
GE Gas Turbines (Greenville) LLC.



Nick Martin
Manager, E-Class & Mechanical Drive Systems Engineering
GE Energy
GE Gas Turbines (Greenville) LLC.

MIDWAY SUNSET COGENERATION PROJECT
RESPONSES TO THE NOVEMBER 12, 1986 WORKSHOP
NOVEMBER 14, 1986

AIR QUALITY

- Q1. Provide documentation of hydrocarbon emission credits from Sun E&P vapor recovery systems.
- R1. Documentation of hydrocarbon reductions is presented in the revised response to staff data request #38 of the October 6, 1986 submittal (page AQ-85) and in revised Table 38-12 of this submittal.
- Q2. Provide the most recent turbine performance tables from General Electric.
- R2. Estimated performance tables for both oil and gas firing cases are provided in Table 1 and Table 2 of this submittal.
- Q3. Indicate the operational status of Sun E&P baseline units not included in the emissions reduction package.
- R3. See revised Table 38-8 of this submittal.

MIDWAY SUNSET COGENERATION PROJECT
REVISED RESPONSE TO STAFF DATA REQUEST #38
OCTOBER 6, 1986

- The lbs/bbl value calculated using a mass balance, assuming the maximum sulfur content allowed under the applicable authority to construct in 1979.

All fuel sulfur was converted to SO₂, and therefore no sulfate emissions were calculated.

Particulates

Particulate emissions were based on AP-42, Table 1.3-1 and a factor of 0.504 lbs/bbl for units of all sizes was used. This factor incorporates the 0.9% sulfur content mentioned above.

Table 38-10 shows the summary of emission factors used for this emission reduction proposal.

The final emissions reduction calculations are shown in Table 38-11 for all creditable baseline permit units which will be shut down to provide emission reductions for the cogeneration project. Emission reductions claimed do not exceed the emission rates allowed for each of these units in their ATC/PTO's.

4. Hydrocarbon Reduction Proposal

Hydrocarbon emission reductions available to the MSC project originate from two sources:

- 1) Shutdown of baseline units
- 2) Installation of wellhead vapor recovery systems (WVRS) throughout the Western (Kern) Stationary Source.

Hydrocarbon emission reductions associated with shutting down fuel-fired baseline equipment are shown in Table 38-11. In addition, Table 38-12 shows the net cumulative air emissions change associated with wellhead vapor recovery systems (and tank vapor recovery systems) since 9/12/79. Table 38-12 shows a significant reduction in hydrocarbon emissions which will also be available to the MSC project.

Currently the wellhead vapor recovery systems vent to steam generating units in order to incinerate hydrocarbons and sulfur compounds present in the vent gases. This incineration effectively controls hydrocarbons emissions to 99 percent. Upon shutdown of these steam generating units the vent stream (from the WVRS) containing hydrocarbons and sulfur compounds will be alternately controlled in order to preserve these emission reductions as credit for the MSC project.

TABLE 38-12
 REVISED: 11/14/86
 CUMULATIVE VOLATILE ORGANIC COMPOUND (VOC) EMISSION
 CHANGES ASSOCIATED WITH VAPOR RECOVERY SYSTEMS
 SINCE 9/12/79

AUTHORITY TO CONSTRUCT NUMBER	ISSUE DATE	PROJECT DESCRIPTION	VOC CHANGE LB/DAY
4014054	104/23/82	10 OF 76 NEW CYCLIC WELLS WITH OPEN VENTS	+ 130.00
4014119A	108/03/82	MODIFY TEOR OPERATION	- 265.00
4014120	103/10/83	TEOR SYSTEM	+ 40.00
4014119B	105/23/84	MODIFY TEOR OPERATION; ADD 20 WELLS	- 15.80
4014129	110/05/84	17 NEW CYCLIC WELLS	+ 221.00
4014503	105/08/86	CRUDE OIL TANK BATTERY WITH VAPOR CONTROL	+ 4.19
4014139	FINAL PROCESSING	TEOR OPERATION SERVING 62 WELLS	-45.47
4014140	FINAL PROCESSING	TEOR OPERATION SERVING 100 WELLS	- 455.00
4014141	FINAL PROCESSING	TANK BATTERY VAPOR RECOVERY SYSTEM	+18.08
4014143	FINAL PROCESSING	TEOR OPERATION SERVING 205 WELLS	-427.88
4014145	FINAL PROCESSING	TEOR OPERATION SERVING 83 WELLS	- 321.75
			<u>-1117.63</u>

KERN COUNTY AIR POLLUTION CONTROL DISTRICT

1601 "H" Street, Suite 150
Bakersfield, California 93301-5199
Telephone: (805) 861-3682



LEON M HEBERTSON, M.D.
Director of Public Health
Air Pollution Control Officer

October 1, 1987

Mr. B. J. Atkins
Sr. Environmental Coordinator
Sun Exploration and Production Co.
25322 W Rye Canyon Road
Box 55060
Valencia, CA 91355-0560

Dear Mr. Atkins:

Thank you for your September 9, 1987 letter concerning adjustments to your western heavy oil production stationary source emission profiles and the NOx emission limits for the proposed cogeneration facility. As you are aware the District conducted a Rule 210.1 (NSR) review of the cogeneration project using maximum approvable NOx emissions based on emission offsets from existing equipment with specific limiting conditions. Based on this analysis a Determination of Compliance (DOC) was submitted to the California Energy Commission (CEC) with the appropriate emission limits as approved by the District.

However, the California Air Resources Board (CARB) conducted a concurrent review of the available offsets based on actual historical emission reductions and determined that different limits should be placed on the DOC. Because of the CARB analysis, the District was requested to modify the DOC to reflect the agreements made with the applicant by CARB and the CEC. As a result of this modification the DOC no longer reflected the District's analysis and associated emission profiles.

If the Midway Sunset Cogeneration Company wishes to commit to lower emission limits they should submit the appropriate applications as soon as possible. At that time the District will conduct an NSR review pursuant to the revised version of Rule 210.1 and, if approvable, issue Authorities to Construct authorizing the emission reduction which will result in a cumulative net change of zero lbm NOx/day.

As you are aware Rule 210.1 as adopted on June 22, 1987 set all cumulative emission reductions to zero. Therefore, even if the District had modified the original cogeneration analysis your cumulative net change, if originally negative, would now be zero lbm/day. Current District policy is to evaluate all projects until the cumulative net change equals + 199 lbm/day. At that time the District will evaluate any actual historical emission reductions needed for approval of a specific project but will not try to establish excess emission reductions.

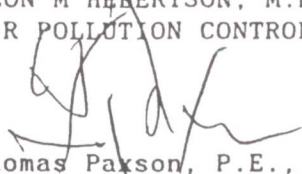
Mr. B. J. Atkins
Sun Exploration Coordinator
October 1, 1987

Page 2

Thank you for your cooperation in this matter. Should you have any further questions, please telephone the Air Quality Control Division at (805) 861-3682.

Sincerely,

LEON M HERBERTSON, M.D.
AIR POLLUTION CONTROL OFFICER



Thomas Paxson, P.E., Manager
Engineering Evaluation Section

DM/nn



May 8, 2006

cc-1380

Mr. Thomas Goff, P.E.
Permit Services Manager
San Joaquin Valley APCD, Southern Region
2700 M Street, Suite 275
Bakersfield, CA 93301-2373

Subject: Response to Notice of Incomplete Application
Project No. S-1055604

Dear Mr. Goff:

This responds to your letter dated January 19, 2006 (please see Attachment 1), regarding our Authority to Construct application for the new evolution compressor rotor and shell at the Midway Sunset Cogeneration Company (MSCC) Unit A turbine located near Fellows, California.

Response to paragraph #1:

The project will meet the 2.0 ppmv dry NOx corrected to 15% oxygen, technologically feasible requirement of the best available control technology (BACT) guidelines 3.4.2 included in your letter.

Regarding the proposed "Achieved in Practice" 2.0 ppmc VOC standard, MSCC notes that it is not cost-effective to reduce VOC emissions from the "Industry Standard" of 4.0 ppmc to the "Technologically Feasible" standard 1.5 ppmc. MSCC estimates that the maximum annual emission reduction from reducing VOC emissions from 4.0 to 1.5 ppmc is 13.4 tons/year. The cost to add oxidation catalyst and modify the HRSG to accept an oxidation catalyst is expected to cost \$738,000 plus the annual increased operating expense of \$124,000 per year. Based on the SJVAPCD's recommended capital recovery factor of 0.1627 and the annual operating cost, the cost effectiveness is \$18,000 per ton of VOC, and, therefore, is not cost effective when compared to the BACT Guideline threshold of \$5,000 per ton of VOC (see Attachment 2 for emissions and complete cost effectiveness calculations, and Attachment 3 for cost documentation). Thus, we have proposed the "Achieved in Practice" BACT VOC standard of 2.0 ppmc.

Similarly, it is not cost-effective to reduce CO emissions from the "Industry Standard" of 25 ppmc to the "Technologically Feasible" standard 4.0 ppmc. MSCC estimates that the maximum annual emission reduction from reducing CO emissions from 25 to 4.0 ppmc is 196 tons/year. The cost to add oxidation catalyst and modify the HRSG to accept an oxidation catalyst is expected to cost \$738,000 plus increased annual operating cost of

\$124,000 per year. Based on the SJVAPCD's recommended capital recovery factor of 0.1627 and the increased operating expense, the cost effectiveness is \$1200 per ton of CO, and, therefore, is not cost effective when compared to the BACT Guideline threshold of \$300 per ton of CO (see Attachment 2 for emissions and cost effectiveness calculations and Attachment 3 for cost documentation). Thus, we have proposed the "Achieved in Practice" BACT CO standard of 6.0 ppmc.

Response to paragraph #2:

Please refer to pages 139 and 140; and the Natural Burning Gas Case of the Air Quality Table 20 from the California Energy Commission (CEC) final decision dated May 13, 1987 (attachment 4). The CEC final decision is the basis for MSCC's license to operate and incorporates, for air quality, input from the Federal Environmental Protection Agency, the California Air Resource Board (CARB) and the Kern County Air Pollution Control District. Note B, Table 20, verifies that the offset emissions were based on actual fuel used and generator specific source test date when available.

As you may recall the Kern County APCD's initial determination of Compliance (DOC) was based on the old 80/80 rule. While the 80/80 emission numbers were close to the emissions based on actual fuel; the 80/80 numbers were unacceptable to the CARB and the CEC. MSCC then requested the District to reissue the DOC based on the emission credits derived from the fuel burned. The District acquiesced to our request and issued a DOC, based on Kern County new source review requirements. As per the attached CEC Table 20, the NOx was based upon fuel burned to obtain the offsets, and the District operating emissions limits were set based on this criteria. MSCC has constantly run well under the emission limits, leading to a net emissions decrease over the years.

Response to paragraph #3:

Please find a signed copy of the SJVAPCD Permit Application (attachment 5).

Response to paragraph #4:

Please find a complete title V Compliance Certification for Modification Form (attachment 6).

In summary, MSCC's Turbine Unit A will meet the BACT requirements in the SJVAPCD's BACT Guideline 4.3.2, including:

- 2.0 ppmc NOx (Technologically Feasible; one-hour average);
- 6.0 ppmc CO (Achieved in Practice; three-hour average);
- 2.0 ppmc VOC (Achieved in Practice);
- Air inlet filter and cooler, lube oil vent coalescer and natural gas fuel for PM₁₀ control; and
- PUC-regulated natural gas for SOx control.



MSCC is proposing to comply with the very stringent "technologically feasible" NO_x limit of 2.0 ppmc averaged over one hour. In order to consistently maintain compliance with this standard, MSCC is proposing an "excursion" exclusion to account for the difficulty in maintaining the 2.0 ppmc NO_x limit during all modes of operation. This excursion language has been implemented by the SJVAPCD for other recent turbine projects, including the General Electric Frame 7EA turbines at the Walnut Energy Center in Turlock, California (N-7172-1-0 and N-7172-2-0). The following proposed permit language implements this exclusion provision and is identical to the language approved by the SJVAPCD for the Walnut Energy Center:

- 1. NO_x emission concentrations during steady-state operation shall not exceed 2.0 ppmvd @ 15% O₂ over a one-hour average (clock hour basis). Steady-state period refers to any period that is not a startup or shutdown period. A clock hour in a one-hour average will commence at the top of the hour.*
- 2. Compliance with the NO_x emission limitations during steady-state operation shall not be required during short-term excursions limited to a cumulative total of 10 hours per rolling 12-month period. Short-term excursions are defined as 15-minute periods designated by the owner/operator (and approved by the APCO) that are the direct result of transient load conditions, not to exceed four consecutive 15-minute periods, when the 15-minute average NO_x concentration exceeds 2.0 ppmvd @ 15% O₂. The maximum one-hour average NO_x concentration for periods that include short-term excursions shall not exceed 30 ppmvd @ 15% O₂.*
- 3. Examples of transient load conditions include, but are not limited to, the following: (1) initiation or shutdown of combustion turbine inlet air cooling, and (2) rapid combustion turbine load changes. All emissions during short-term excursions shall accrue towards the hourly, daily, and annual emissions limitations of this permit and shall be included in all calculations of hourly, daily, and annual mass emission rates as required by this permit.*

These proposed conditions will allow MSCC to effectively implement a very stringent current NO_x standard at an existing older turbine installation.

Please contact me at (661) 768-3020 or Ray Smith at (661) 768-3016 if you have any questions regarding this matter.

Sincerely,

E.R. Western
Executive Director



Mr. Thomas Goff

4-

May 8, 2006

Enclosure

cc:

File

Steve Tomlin, SJVAPCD

Jeff Adkins, Sierra Research

G. Jans

J. Alvidres

P. Shue (Aera)



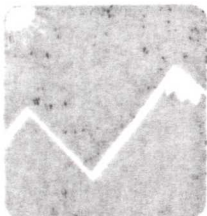
Mr. Thomas Goff

5-

May 8, 2006

ATTACHMENT 1

District Notice Of Incomplete Application Project Number S-1055604



San Joaquin Valley
Air Pollution Control District

JAN 19 2006

JAN 19 2006

Edmond R. Western, Executive Director
Midway Sunset Cogeneration Company
P.O.Box 457
Fellows, CA 93224-0457

Re: Notice of Incomplete Application
Project Number: S-1055604

Dear Mr. Western:

The District has received your Authority to Construct application for replacement of the compressor rotor and shell at the Midway Sunset Cogeneration Company Unit A turbine, at 3466 Crocker Springs Road, near Fellows, CA. Based on our preliminary review, the application has been determined to be incomplete. The following information is required prior to further processing:

1. BACT is required for modified emission units pursuant to Rule 2201 section 4.1.2 if the adjusted increase in permitted emissions (AIPE) is greater than 2 lb/day. Sections Rule 2201 sections 4.3 and 4.4 specify the emission calculation method to determine if an adjusted increase in permitted emissions (AIPE) has occurred. The emission factors, EF1 and EF2 in the AIPE calculation, are based on the potential to emit divided by the maximum capacity of the emissions unit. For turbines, the capacity is the heat input rating. Because the maximum heat input rating is increasing, and the potential to emit is not changing, the emission factor is being reduced. The reduced emission factor must be specified on the permit to allow the daily emission limit to be enforceable. Therefore the AIPE is greater than 2 lb/day and BACT is required. Please propose BACT (applicable SJVUAPCD BACT Guideline 3.4.2 attached).
2. The support information included with your application indicates the turbine emissions were mitigated with steam generator shutdowns, and addition of vapor control system(s) to tanks. Please demonstrate that the emission reductions associated with the installation of the vapor control system(s) are real reductions based on historical emissions, and not solely a decrease in permitted emissions. This information is needed to determine if the turbine qualifies as a Fully Offset emissions unit for VOC per Rule 2201.

JAN 2 2015

Mr. Western

Page 2

3. Please sign the attached copy of your application.
4. Please submit a completed Title V Compliance Certification for Modifications form (attached).

In addition, the District has determined that the application filing fee of \$60.00 per permit unit has not been fully paid. Payment of the attached bill is required prior to further processing.

In response, please refer to the above project number, and send to the attention of Mr. Steve Tomlin.

Please submit the requested information within 30 days. The District will not be able to process your application until this information is received. Please note that the District's Small Business Assistance (SBA) office is available to assist you in this matter. You may contact an SBA engineer at (661) 326-6969.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Steve Tomlin at (661) 326-6968.

Sincerely,

David Warner
Director of Permit Services



Thomas Goff, P.E.
Permit Services Manager

DW:svt

Attachment

cc: Peggy Shue, Aera Energy LLC
P.O. Box 11164
Bakersfield, CA 93389-1164

**San Joaquin Valley
Unified Air Pollution Control District**

Best Available Control Technology (BACT) Guideline 3.4.2*

Last Update: October 1, 2002**

Emission Unit: Gas Turbine - \geq 50 MW, Uniform Load, with Heat Recovery

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
NO _x	2.5 ppmv dry @ 15% O ₂ (1-hr average, excluding startup and shutdown), (Selective catalytic reduction, or equal)	2.0 ppmv dry @ 15% O ₂ (1-hr average, excluding startup and shutdown), (Selective catalytic reduction, or equal)	
VOC	2.0 ppmv @ 15% O ₂	1.5 ppmv @ 15% O ₂	
PM ₁₀	Air inlet filter cooler, lube oil vent coalescer and natural gas fuel, or equal		
SO _x	1. PUC-regulated natural gas or 2. Non-PUC-regulated gas with no more than 0.75 grams S/100 dscf, or equal.		
CO	6.0 ppmv @ 15% O ₂ (Oxidation catalyst, or equal)	4.0 ppmv @ 15% O ₂ (Oxidation catalyst, or equal)	

** Applicability lowered to \geq 50 MW pursuant to CARB Guidance for Permitting Electrical Generation Technologies. Change effective 10/1/02. Corrected error in applicability to read 50 MW not 50 MMBtu/hr effective 4/1/03.

***This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**



Mr. Thomas Goff

6-

May 8, 2006

Attachment 2

Cost Effectiveness Calculations

VOC Cost Effectiveness

	Turbine MMBtu/hr	VOC ppmc	F-factor dscf/MMBtu	VOC MW	Mol Vol dscf/mol	VOC lb/hr	hr/yr	VOC lb/yr
Industry Std.	952	4	8710	16	385.3	4.88	8760	42,740
Tech Feasible Std.	952	1.5	8710	16	385.3	1.83	8760	16,027

reduction = 26,712
tons/yr = 13.36

interest rate = 0.1

years = 10

CRF = 0.162745

Cost = \$ 738,000

Annualized Cost = \$ 120,106

Catalyst Replacement Cost = \$240,000

Catalyst Life (years) = 7

Pressure Drop Efficiency Loss = \$ 90,000

Annual Operating Cost = \$ 124,286

Cost Effectiveness \$/ton = \$ 18,298

Threshold = \$ 5,000

CO Cost Effectiveness

	Turbine MMBtu/hr	CO ppmc	F-factor dscf/MMBtu	CO MW	Mol Vol dscf/mol	CO lb/hr	hr/yr	CO lb/yr
Industry Std.	952	25	8710	28	385.3	53.36	8760	467,469
Tech Feasible Std.	952	4	8710	28	385.3	8.54	8760	74,795

reduction = 392,674
tons/yr = 196.3

interest rate = 0.1

years = 10

CRF = 0.162745

Cost = \$ 738,000

Annualized Cost = \$ 120,106

Catalyst Replacement Cost = \$240,000

Catalyst Life (years) = 7

Pressure Drop Efficiency Loss = \$ 90,000

Annual Operating Cost = \$ 124,286

Cost Effectiveness \$/ton = \$ 1,245

Threshold = \$ 300



Mr. Thomas Goff

8-

May 8, 2006

Attachment 3

Oxidation Catalyst Cost Documentation



April 14, 2006

rsmith2@edisomission.com

Mr. Ray Smith
Midway Sunset Cogeneration Company
3466 West Crocker Springs Road
Fellows, California
93224-0457

Subject: CO Catalyst Retrofit Cost Estimate

Project: CO Catalyst Cost Estimating
TJC #06141

Dear Ray:

I have completed an investigation into the cost to retrofit the existing HRSGs at MSCC with CO catalysts. For the purposes of this estimate, I assumed similar operating conditions to what were used for the NOx catalyst work we have done for you over the last few years, with the main difference being operating temperature.

Catalyst budget costs were solicited from several vendors. Robert Erdmann of AHM Associates and Larry Jansen of ARB, by way of Richard Beets, supplied budget quotations. Larry Jansen also provided a ballpark installation cost estimate.

If I used high side costs, I estimate the cost to do the first HRSG as follows:

Catalyst and pre-fabricated frames:	\$436,000
Flow analysis (possibly by NELS):	\$20,000
Field installation labor and materials:	\$50,000
Miscellaneous engineering costs:	\$30,000
Taxes:	\$31,610
Subtotal:	<u>\$567,610</u>
Contingency @ 30%:	<u>\$170,283</u>
Total:	\$737,893

Obviously, there is a lot of padding here. AHM Associates cost for the catalyst was about \$338,000, quite a bit less than ARB. Contingency at 30% is typical for a scoping study, but may be higher than necessary here. Of course, you will have to add in your permitting, consultant and overhead costs to this estimate.

Ray Smith/MSCC
April 14, 2006
Page 2 of 3

One significant issue is the actual installation of the catalyst. The catalyst itself is only about 1.75 inches thick. One concept I had was to replace the perforated plates, that are currently in front of the first row of tubes, with the catalyst. These rectangular panels are about 9.5 feet by 7.5 feet. If one made catalyst support frames of these same dimensions, they could replace the perforated plates.

The original NELS study showed that the velocity profile deviation without the perforated plates was 24.8% RMS, versus 13.9% RMS with the plates. I asked AHM if the inlet flow had a RMS deviation of 25%, could the catalyst be made to handle this deviation. They came back with a revised quotation with a slightly thicker catalyst. Pressure drop through this catalyst would be 1.3 inches of water column.

A quick comparison of the weight of the perforated plates and of the catalyst without frame shows that one could add quite a bit of framing material before the weight of the existing perforated plates was equaled. Therefore, this installation could probably be made without any significant change to the seismic design of the HRSG. The existing perforated plates put up 0.27 inches of water column pressure drop, per the original NELS study. The catalyst would put up about 1.3 inches of water column, for a net increase of about 1 inch. The net increase in downstream thrust would be about 6000 lbs, an insignificant amount considering the mass of the tube bundles.

My conclusion is that there is a good chance that the structural installation of the CO catalyst may become rather simple, with a little thought put into the design up front. My thought is to create a detailed drawing depicting the current perforated plate installation, something more detailed than the original Foster Wheeler drawing. This would give the bidders of the CO catalysts a good starting point.

AHM gave me some idea of replacement cost. They stated that the estimated catalyst life is seven to twelve years. The warranty is for three years. Replacement cost is about \$240,000, plus installation and escalation. Some cost can be cut by recycling the spent catalyst.

Ray Smith/MSCC
April 14, 2006
Page 3 of 3

Attached are the original data sheet that I sent to the vendors and the quotations that I received. Please call me (661-831-8782 ext. 118) if you have any questions or need additional information.

Sincerely,

David Jackson, P.E.
Chief Mechanical Engineer

DBJ

cc: E.R. Western - MSCC/Fellows
G. Jans - MSCC/Fellows
T.B. Couch - TJC/BFL



Mr. Thomas Goff

9-

May 8, 2006

Attachment 4

MIDWAY SUNSET
Cogeneration Company

Excerpts From The California Energy Commission Final Decision

At that hearing, the Staff, ARB, and the Applicant testified. Each party ~~essentially~~ concluded that the actual offsets provided as a part of the Midway-Sunset Project would result in reducing the project's emissions below the trigger level for offsets and control requirements. ARB reviewed the final DOC issued by KCAPCD and determined that if the Midway-Sunset Project is built and operated in compliance with the provisions of the final DOC, the Project will comply with the KCAPCD rules and regulations, as well as other pertinent air quality laws and regulations. (Feb. 10, 1987 RT 5-6). The project provides no net emission increase and, by some analysis, provides a net emission decrease for all pollutants except for CO. The net emission decreases could result due to conditions in the DOC which prevent modification of existing equipment and siting of new equipment which would add to the emission output near the project. (Feb. 10, 1987 RT 118:13-22 [Shiroma]; 119:16-25 [Golden]). Thus, it is likely that project operations will result in a net air quality benefit.

The Applicant submitted testimony which proposed various modifications to the proposed Conditions of Certification as presented in Staff's Final Assessment (FSA) of January 30, 1987.⁵⁶ The purpose of these modifications was to relieve the Applicant of the need to return to the Commission for approval to operate more than one turbine when firing on oil. (Feb. 10, 1987 RT 29). As a result of the modifications, Applicant will demonstrate to Staff and the KCAPCD whether it can fire multiple turbines with oil while still

56. Subsequent to the issuance of the FSA, a workshop was held on February 3, 1987 to discuss the FSA; this resulted in Staff and Applicant's general agreement to modify the proposed Conditions of Certification. (Feb. 11, 1987 RT 17, 105).

consistently maintaining the applicable emissions limit for the facility without adversely affecting emissions of CO, non-methane hydrocarbons (NMHC), and TSP or the reliability of the turbines. (See Condition 32 below). Other changes to the proposed Conditions merely accommodate and conform them with Condition 32 as contained below.

Staff submitted an "errata sheet" at the February 10 hearing which included revisions to the technical analysis of the well head casing vent vapor recovery and disposal systems that will be used to mitigate hydrocarbon emissions from the Midway-Sunset Cogeneration Project. Applicant's witness had no comments on these changes and agreed with the changes made. (Feb. 10, 1987 RT 36). Staff's testimony on Air Quality was undisputed.

In conclusion, ambient air quality impacts posed by the Midway-Sunset Project will not violate state and federal ambient air quality standards for NO₂, CO, and Pb. (Feb. 10, 1987 RT 64). The overall project emissions of SO₂, NO₂, TSP, PM₁₀, and SO₄ will be fully offset. (Feb. 11, 1987 RT 72). The Commission recognizes that the proposed project is in an area essentially devoid of sensitive receptors such as hospitals, schools, and retirement homes; therefore, the cumulative air quality impacts associated with this project should not be significant (Ibid.). Overall, the Midway-Sunset Project will result in a net emissions decrease of NO_x, SO₂, TSP, and HC under both the gas fired and the oil fired cases. (Feb. 10, 1987 RT 77). (See Table 20 attached). The only pollutant with a net emission increase is CO; however, this increase will not cause any significant ambient CO degradation and, therefore, no further mitigation is required. (Feb. 10, 1987 RT 77).

AIR QUALITY: TABLE 20

CEC Staff Analysis of SCC/SSEC Emission Offset Proposal
(lb/day)

	TSP	SO ₂	NO _x	HC	CO
<u>Natural Gas-Burning Case</u> *					
Cogeneration Project Emissions ^a	723	69	6,151	692	6,776
Offsets from Equipment Shutdowns ^b	(1,702) ^c	(5,078)	(6,282)	(172)	(529)
Offsets from Vapor Recovery System ^d	<u>0</u>	<u>0</u>	<u>0</u>	<u>(1,082)</u>	<u>0</u>
Net Project Emissions	(979)	(5,009)	(131)	(562)	6,247
<u>Fuel Oil-Burning Case</u>					
Cogeneration Project Emissions ^e	512	2,748	6,264	855	7,069
Offsets from Equipment Shutdowns ^b	(1,702)	(5,078)	(6,292)	(172)	(529)
Offsets from Vapor Recovery System ^d	<u>0</u>	<u>0</u>	<u>0</u>	<u>(1,082)</u>	<u>0</u>
Net Project Emissions	(1,190)	(2,330)	(18)	(399)	6,540

^a Includes emissions from combustion turbines, black-start generator, fire water pump, and fuel storage tanks.

^b Emissions based on actual fuel use and generator-specific source test data when available.

^c () denotes negative number.

^d SCC/SSEC (1986g).

^e Includes emissions from combustion turbines, train, trucks, off-site fuel unloading facility, black-start generator, fire water pump, and fuel storage tanks.



Mr. Thomas Goff

10-

May 8, 2006

MIDWAY SUNSET
Cogeneration Company

Attachment 5



San Joaquin Valley Air Pollution Control District Permit Application

San Joaquin Valley Air Pollution Control District

www.valleyair.org

Permit Application For:

- ☐ AUTHORITY TO CONSTRUCT (ATC) - New Emission Unit
☒ AUTHORITY TO CONSTRUCT (ATC) - Modification Of Emission Unit With Valid PTO/Valid ATC
☐ AUTHORITY TO CONSTRUCT (ATC) - Renewal of Valid Authority to Construct
☐ PERMIT TO OPERATE (PTO) - Existing Emission Unit Now Requiring a Permit to Operate

1. PERMIT TO BE ISSUED TO: Aera Energy LLC	
2. MAILING ADDRESS: STREET/P.O. BOX: <u>10000 Ming Ave.</u> <u>P.O. Box 11164</u> CITY: <u>Bakersfield</u> STATE: <u>CA</u> 9-DIGIT ZIP CODE: <u>93389-1164</u>	
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: STREET: <u>3466 W. Crocker Springs Rd.</u> CITY: <u>Fellows</u> <u>S.E.</u> /4 SECTION <u>17</u> TOWNSHIP <u>31S</u> RANGE <u>22E</u>	WITHIN 1,000 FT OF A SCHOOL? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO S.I.C. CODE(S) OF FACILITY (If known): <u>4931</u>
4. GENERAL NATURE OF BUSINESS: Cogeneration – Generate electricity and steam	INSTALL DATE: Feb. 2007
5. TITLE V PERMIT HOLDERS ONLY: Do you request a COC (EPA Review) prior to receiving your ATC (If yes, please complete and attach a Compliance Certification form (TVFORM-009)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
6. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit #'s if known, and use additional sheets if necessary) Please see attachment 1.	
7. PERMIT REVIEW PERIOD: Do you request a three- or ten-day period to review the draft Authority to Construct permit? Please note that checking "YES" will delay issuance of your final permit by a corresponding number of working days. See instructions for more information on this review process. <input type="checkbox"/> 3-day review <input checked="" type="checkbox"/> 10-day review <input type="checkbox"/> No review requested	
8. HAVE YOU EVER APPLIED FOR AN ATC OR PTO IN THE PAST? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If yes, ATC/PTO #: <u>S-1135-224-21</u>	Optional Section 11. CHECK WHETHER YOU ARE A PARTICIPANT IN EITHER OF THESE VOLUNTARY PROGRAMS: "SPARE THE AIR" <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Send info "INSPECT" <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Send info  
9. HAVE ALL NECESSARY LAND-USE AUTHORIZATIONS BEEN OBTAINED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO (If "No" is checked, please attach explanation)	
10. IS THIS APPLICATION SUBMITTED AS THE RESULT OF EITHER A NOTICE OF VIOLATION OR A NOTICE TO COMPLY? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If yes, NOV/NTC #:	
12. TYPE OR PRINT NAME OF APPLICANT: Edmond R. Western	TITLE OF APPLICANT: Executive Director
13. SIGNATURE OF APPLICANT: <u>Edmond R. Western</u> DATE: <u>5-8-06</u>	PHONE #: (661) 768-3020 FAX #: (661) 7684570 E-MAIL:

FOR APCD USE ONLY:

DATE STAMP:	FILING FEE RECEIVED: \$ _____ CHECK #: _____
	DATE PAID: _____
	PROJECT #: _____ FACILITY ID: _____

Northern Regional Office * 4230 Kiernan Avenue, Suite 130 * Modesto, California 95356-9321 * (209) 557-6400 * FAX (209) 557-6475
Central Regional Office * 1990 East Gettysburg Avenue * Fresno, California 93726-0244 * (559) 230-5900 * FAX (559) 230-6061
Southern Regional Office * 2700 M Street, Suite 275 * Bakersfield, California 93301-2370 * (661) 326-6900 * FAX (661) 326-6985

Rev: January 28, 2005



Permit Application Attachment 1

Line 6: Description of equipment or modification for which application is made.

MSCC 's Unit A is currently operation under Authority to Construct #s-1135-224-22 for GE model G 7111E, Frame 7E, gas turbine engine with dry low NOx combustors, selective catalytic reduction (SCR) and an unfired heat recovery steam generator (HRSG).

The modification for which the ATC Permit Application is submitted is a result of GE's improvement design for the compressor rotor of Frame 7E gas turbines. The "Evolution" rotor refines the aerodynamics of the compressor blades resulting in more uniform stage to stage compression ratios across the 17 compressor stages. The result is reduced turbulence and increased efficiency. GE predicts a 9% power output increase (75 MW to 82 MW) and a 1 ½% heat rate reduction (11,650 Btu/KWH to 11,475 Btu/KWH). As a result of the increased efficiency, the exhaust flow is expected to increase 8%. The redesigned rotor will require a redesigned compressor shell to complete the designed efficiency increase.

MSCC is not asking for an increase in any permitted emission limits and agrees to maintain all the conditions of the current ATC# 1135-224-22.

San Joaquin Valley Air Pollution Control District

Supplemental Application Form

Gas Turbines

Please complete one form for each gas turbine.

This form must be accompanied by a completed Application for Authority to Construct and Permit to Operate form

PERMIT TO BE ISSUED TO: **Aera Energy LLC, PO Box 11164, Bakersfield, CA. 93389-1164**

LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: **Heavy Oil Western Stationary Source**
Kern County, CA. Section: 17. Township: 31S. Range: 22E

EQUIPMENT DESCRIPTION

Equipment Details	<input checked="" type="checkbox"/> Industrial Frame <input type="checkbox"/> Aero Derivative <input type="checkbox"/> Other: _____													
	Manufacturer: GE	Model: G7001E	Serial Number: 295369											
	<input type="checkbox"/> Simple Cycle <input type="checkbox"/> Combined Cycle <input checked="" type="checkbox"/> Co-generation <input type="checkbox"/> Other: _____													
	Total Rated Shaft Output Power: 82 MW													
	Is the unit equipped with an auxiliary/duct burner? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Note: If yes, please complete a <i>Boiler, Steam Generator, Dryer, and Process Heater Supplemental Application form</i> for the unit.)													
Rule 4703 Type of Use and Emissions Monitoring Provisions	<input type="checkbox"/> Peaking Unit - limited to no more than 877 hrs/yr of operation <input type="checkbox"/> Emergency Standby - limited to less than 200 hrs/yr of operation <input checked="" type="checkbox"/> Full Time - must have either a Continuous Emission Monitoring System (CEMS) or an alternate emissions monitoring plan (must be approved by the APCO) <input checked="" type="checkbox"/> CEMS, please specify all pollutants monitored: <input checked="" type="checkbox"/> NO _x <input checked="" type="checkbox"/> CO <input checked="" type="checkbox"/> O ₂ <input checked="" type="checkbox"/> Other Ammonia Slip <input type="checkbox"/> Alternate Emissions Monitoring Plan (please provide details in additional documentation)													
	Fuel Use Meter <input checked="" type="checkbox"/> Gaseous Fuel Meter <input type="checkbox"/> Liquid Fuel Meter <input type="checkbox"/> None													
	Process Data Will this unit be used in an electric utility rate reduction program? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
	Combustor(s) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Manufacturer: GE</td> <td style="width: 33%;">Model: DLN-1</td> <td style="width: 33%;">Number of Combustors: 10</td> </tr> <tr> <td colspan="3">Maximum Heat Input Rating (for all combustors @ ISO standard conditions): 952 MM Btu/hr</td> </tr> <tr> <td>Water Injection: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> <td colspan="2">Dry Low NO_x Technology: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td>Steam Injection: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</td> <td colspan="2">Other NO_x Control Technology: SCR</td> </tr> </table>			Manufacturer: GE	Model: DLN-1	Number of Combustors: 10	Maximum Heat Input Rating (for all combustors @ ISO standard conditions): 952 MM Btu/hr			Water Injection: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Dry Low NO _x Technology: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Steam Injection: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Other NO _x Control Technology: SCR
Manufacturer: GE	Model: DLN-1	Number of Combustors: 10												
Maximum Heat Input Rating (for all combustors @ ISO standard conditions): 952 MM Btu/hr														
Water Injection: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Dry Low NO _x Technology: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No													
Steam Injection: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Other NO _x Control Technology: SCR													

EMISSIONS DATA

Note: See District BACT and District Rule 4703 requirements for applicability to proposed unit at http://www.valleyair.org/busind/pto/bact/chapter3.pdf and http://www.valleyair.org/rules/emissions/rules/4703.pdf							
Primary Fuel	Fuel Type: <input checked="" type="checkbox"/> Natural Gas <input type="checkbox"/> LPG/Propane <input type="checkbox"/> Diesel <input type="checkbox"/> Other: _____						
	Higher Heating Value: 1039.0 Btu/scf			Sulfur Content: 0.00 % by weight or			
	Maximum Fuel Use @ HHV: 916,226 scf/hr			Rated Efficiency (EFF _{Mfg}): 33.0 %			
Primary Fuel Emissions Data	Operational Mode	Steady State (ppmv) (lb/MMBtu)		Start-up (ppmv) (lb/hr)		Shutdown (ppmv) (lb/hr)	
	Nitrogen Oxides	3.68	0.013	20.23	44.33	8.60	7.04
	Carbon Monoxide	0.58	0.0013	65.42	63.07	39.12	14.41
	Volatile Organic Compounds	ND	ND	-	-	-	-
	Duration			N/A hr/day	8.0 hr/yr	N/A hr/day	8.0 hr/yr
% O ₂ , dry basis, if corrected to other than 15%: N/A %							

EMISSIONS DATA (continued)

Secondary Fuel	When will the secondary fuel be used? <input type="checkbox"/> Primary fuel curtailment <input type="checkbox"/> Simultaneously with primary fuel <input type="checkbox"/> Other: _____						
	Fuel Type: <input type="checkbox"/> Natural Gas <input type="checkbox"/> LPG/Propane <input type="checkbox"/> Diesel <input type="checkbox"/> Other: _____						
	Higher Heating Value: _____ Btu/gal or Btu/scf		Sulfur Content: _____ % by weight or gr/scf				
	Maximum Fuel Use @ HHV: _____ scf/hr or gal/hr		Rated Efficiency (EFF _{Mfg}): _____ %				
Secondary Fuel Emissions Data	Operational Mode	Steady State (ppmv) (lb/MMBtu)		Start-up (ppmv) (lb/hr)		Shutdown (ppmv) (lb/hr)	
	Nitrogen Oxides						
	Carbon Monoxide						
	Volatile Organic Compounds						
	Duration (please provide justification)			_____ hr/day	_____ hr/yr	_____ hr/day	_____ hr/yr
% O ₂ , dry basis, if corrected to other than 15%: _____ %							
Source of Data	<input type="checkbox"/> Manufacturer's Specifications <input checked="" type="checkbox"/> Emission Source Test <input checked="" type="checkbox"/> Other <u>CEM Records</u> (please provide copies)						

EMISSIONS CONTROL

Emission Control Equipment <small>(Check all that apply)</small>	<input checked="" type="checkbox"/> Inlet Air Filter/Cooler		<input checked="" type="checkbox"/> Lube Oil Vent Coalescer	
	<input checked="" type="checkbox"/> Selective Catalytic Reduction - Manufacturer: <u>Hatachi Zosen</u> Model: <u>NOXNON - 700</u> <input checked="" type="checkbox"/> Ammonia (NH ₃) <input type="checkbox"/> Urea <input type="checkbox"/> Other: _____			
	<input type="checkbox"/> Oxidation Catalyst - Manufacturer: <u>N/A</u> Model: <u>N/A</u>			
	Control Efficiencies: NO _x <u>80.0</u> %, SO _x <u>NA</u> %, PM ₁₀ <u>N/A</u> %, CO <u>N/A</u> %, VOC <u>N/A</u> %			
	<input checked="" type="checkbox"/> Other (please specify): <u>Dry Low NOx Combustors</u>			
	For units equipped with exhaust gas NO _x control equipment and rated < 10 MW, or rated ≥ 10 MW but operated < 4,000 hr/yr, one may choose at least one of the following alternate emission monitoring schemes in lieu of a CEMS (each option below must be approved by APCO on a case-by-case basis. Please include a detailed proposal for each option chosen): <input type="checkbox"/> Periodic NO _x emission concentration <input type="checkbox"/> Turbine exhaust O ₂ concentration <input type="checkbox"/> Air-to-Fuel ratio <input type="checkbox"/> Flow rate of reducing agents added to turbine exhaust <input type="checkbox"/> Catalyst inlet and outlet temperature <input type="checkbox"/> Catalyst inlet and exhaust O ₂ conc. <input type="checkbox"/> Other operational characteristics as approved by the APCO (specify on attached sheet)			

HEALTH RISK ASSESSMENT DATA

Operating Hours	Maximum Operating Schedule: <u>24</u> hours per day, and <u>8660</u> hours per year		
Receptor Data	Distance to nearest Residence	<u>8000</u> feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest apartment, house, dormitory, etc.
	Direction to nearest Residence	<u>N.E.</u>	Direction from the stack to the receptor, i.e. Northeast or South.
	Distance to nearest Business	<u>2000</u> feet	Distance is measured from the proposed stack location to the nearest boundary of the nearest office building, factory, store, etc.
	Direction to nearest Business	<u>N.E.</u>	Direction from the stack to the receptor, i.e. North or Southwest.
Stack Parameters	Release Height	<u>53</u> feet above grade	
	Stack Diameter	<u>Rectangular 5'6" x 37'6"</u>	
	Ramp Cap	<input type="checkbox"/> Flapper-type <input type="checkbox"/> Fixed-type <input checked="" type="checkbox"/> None <input type="checkbox"/> Other: _____	
	Direction of Flow	<input checked="" type="checkbox"/> Vertically Upward <input type="checkbox"/> Horizontal <input type="checkbox"/> Other: _____° from vert. or _____° from horiz.	
Exhaust Data	Flowrate: <u>464,650</u> scfm		Temperature: <u>329.0</u> °F
Facility Location	<input type="checkbox"/> Urban (area of dense population) <input checked="" type="checkbox"/> Rural (area of sparse population)		

FOR DISTRICT USE ONLY

Date:	FID:	Project:	Public Notice: <input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:			

**San Joaquin Valley
Unified Air Pollution Control District**

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

☐ SIGNIFICANT PERMIT MODIFICATION
☒ MINOR PERMIT MODIFICATION

☐ ADMINISTRATIVE
AMENDMENT

COMPANY NAME: Midway Sunset Cogeneration Company	FACILITY ID: S - 1135
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name: Aera Energy LLC	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- ☒ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- ☒ Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- ☒ Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Edmond R. Western

Signature of Responsible Official

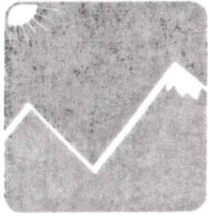
Edmond R. Western

Name of Responsible Official (please print)

Executive Director

Title of Responsible Official (please print)

5-8-06
Date



San Joaquin Valley
Air Pollution Control District

JAN 23 2006
MIDWAY-SUNSET
COGENERATION

JAN 19 2006

Edmond R. Western, Executive Director
Midway Sunset Cogeneration Company
P.O.Box 457
Fellows, CA 93224-0457

Re: Notice of Incomplete Application
Project Number: S-1055604

Dear Mr. Western:

The District has received your Authority to Construct application for replacement of the compressor rotor and shell at the Midway Sunset Cogeneration Company Unit A turbine, at 3466 Crocker Springs Road, near Fellows, CA. Based on our preliminary review, the application has been determined to be incomplete. The following information is required prior to further processing:

1. BACT is required for modified emission units pursuant to Rule 2201 section 4.1.2 if the adjusted increase in permitted emissions (AIPE) is greater than 2 lb/day. Sections Rule 2201 sections 4.3 and 4.4 specify the emission calculation method to determine if an adjusted increase in permitted emissions (AIPE) has occurred. The emission factors, EF1 and EF2 in the AIPE calculation, are based on the potential to emit divided by the maximum capacity of the emissions unit. For turbines, the capacity is the heat input rating. Because the maximum heat input rating is increasing, and the potential to emit is not changing, the emission factor is being reduced. The reduced emission factor must be specified on the permit to allow the daily emission limit to be enforceable. Therefore the AIPE is greater than 2 lb/day and BACT is required. Please propose BACT (applicable SJVUAPCD BACT Guideline 3.4.2 attached).
2. The support information included with your application indicates the turbine emissions were mitigated with steam generator shutdowns, and addition of vapor control system(s) to tanks. Please demonstrate that the emission reductions associated with the installation of the vapor control system(s) are real reductions based on historical emissions, and not solely a decrease in permitted emissions. This information is needed to determine if the turbine qualifies as a Fully Offset emissions unit for VOC per Rule 2201.

File, EPC, EIS, JEA, GWS, BSK

David L. Crow
Executive Director / Air Pollution Control Officer

Northern Region Office
4800 Enterprise Way
Modesto, CA 95356-8718
(209) 557-6400 • FAX (209) 557-6475

Central Region Office
1990 East Gettysburg Avenue
Fresno, CA 93726-0244
(559) 230-6000 • FAX (559) 230-6061
www.valleyair.org

Southern Region Office
2700 M Street, Suite 275
Bakersfield, CA 93301-2373
(661) 326-6900 • FAX (661) 326-6985

JAN 19 2006

Mr. Western

Page 2

3. Please sign the attached copy of your application.
4. Please submit a completed Title V Compliance Certification for Modifications form (attached).

In addition, the District has determined that the application filing fee of \$60.00 per permit unit has not been fully paid. Payment of the attached bill is required prior to further processing.

In response, please refer to the above project number, and send to the attention of Mr. Steve Tomlin.

Please submit the requested information within 30 days. The District will not be able to process your application until this information is received. Please note that the District's Small Business Assistance (SBA) office is available to assist you in this matter. You may contact an SBA engineer at (661) 326-6969.

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Steve Tomlin at (661) 326-6968.

Sincerely,

David Warner
Director of Permit Services



Thomas Goff, P.E.
Permit Services Manager
DW:svt

Attachment

cc: Peggy Shue, Aera Energy LLC
P.O. Box 11164
Bakersfield, CA 93389-1164

**San Joaquin Valley
Unified Air Pollution Control District**

Best Available Control Technology (BACT) Guideline 3.4.2*

Last Update: October 1, 2002**

Emission Unit: Gas Turbine - >_ 50 MW, Uniform Load, with Heat Recovery

Pollutant	Achieved in Practice or contained in SIP	Technologically Feasible	Alternate Basic Equipment
NO _x	2.5 ppmv dry @ 15 % O ₂ (1-hr average, excluding startup and shutdown), (Selective catalytic reduction, or equal)	2.0 ppmv dry @ 15% O ₂ (1-hr average, excluding startup and shutdown), (Selective catalytic reduction, or equal)	
VOC	2.0 ppmv @ 15 % O ₂	1.5 ppmv @ 15% O ₂	
P M ₁₀	Air inlet filter cooler, Tube oil vent coalescer and natural gas fuel, or equal		
SO _x	1. PUC-regulated natural gas or 2. Non-PUC-regulated gas with no more than 0.75 grams S/100 dscf, or equal.		
CO	6.0 ppmv @ 15 % O ₂ (Oxidation catalyst, or equal)	4.0 ppmv @ 15 % O ₂ (Oxidation catalyst, or equal)	

** Applicability lowered to > 50 MW pursuant to CARB Guidance for Permitting Electrical Generation Technologies. Change effective 10/1/02. Corrected error in applicability to read 50 MW not 50 MMBtu/hr effective 4/1/03.

***This is a Summary Page for this Class of Source - Permit Specific BACT Determinations on Next Page(s)**

San Joaquin Valley Air Pollution Control District **RECEIVED**

~ 2^{ED}
ECEIVED

www.valleyair.org

Permit Application For:

SJVAPCD
Southern Region

- ☐ AUTHORITY TO CONSTRUCT (ATC) - New Emission Unit
☒ AUTHORITY TO CONSTRUCT (ATC) - Modification Of Emission Unit With Valid PTO/Valid ATC

1. PERMIT TO BE ISSUED TO: Aera Energy LLC	
1. MAILING ADDRESS: STREET/P.O. BOX: 10000 Mine Ave. P.O. Box 11164	
CITY: Bakersfield	STATE: CA ZIP CODE 93389-1164
3. LOCATION WHERE THE EQUIPMENT WILL BE OPERATED: STREET: 3466 W. Crocker Sprine Rd. CITY: Fellows S.E. a SECTION 17 TOWNSHIP 31S RANGE 22E W/IN 1,000 FT OF A SCHOOL? [X] YES [] NO S.I.C. CODE(S) OF FACILITY (If known): 4931	
4. GENERAL NATURE OF BUSINESS: Cogeneration – Generate electricity and steam INSTALL DATE: Feb. 2007	
5. TIME V PERMIT HOLDERS ONLY: Do you request a COC (EPA Review) prior to receiving your ATC (If yes, [X] YES [] NO lean co late and attach a Co Nana C cotton (TVFORM-009)?	
6. DESCRIPTION OF EQUIPMENT OR MODIFICATION FOR WHICH APPLICATION IS MADE (include Permit Vs if known, and use additional sheets if necessary) Please see attachment 1.	
7. PERMIT REVIEW PERIOD: Do you request a three- or ten-day period to review the draft Authority to Construct permit? Please note that checking "YES" will delay issuance of your final permit by a corresponding number of [] 3-day review [X] 10-day review world days. See instructions for more information on this review No review requested	
8. HAVE YOU EVER APPLIED FOR AN ATC OR PTO IN THE PAST? [X] YES [] NO If ATC/PTO #: S-I 224-2	
9. HAVE ALL NECESSARY LAND-USE AUTHORIZATIONS BEEN OBTAINED? (If "No" is checked, please attach explanation) [X] YES [] NO	
10. IS THIS APPLICATION SUBMITTED AS THE RESULT OF EITHER A NOTICE OF VIOLATION OR A NOTICE TO COMPLY? [] YES [X] NO If NOV/MTC	
12. TYPE OR PRINT NAME OF APPLICANT: Edmond R. Western	
13. SIGNATURE OF APPLICANT: DATE: PHONE #: (661) 768-3020 FAX #: (661) 768-4570 E-MAIL:	

FOR APCD USE ONLY:

DATE STAMP:

FILING FEE
RECEIVED: \$
DATE PAID:

CHECK #:

PROJECT #: 3 (035) 00q

FACILITY ID: 5- 113

Northern Regional Office • 4230 Kiernan Avenue, Suite 130 • Modesto, California 95356-9321 • (209) 557-6400 FAX (209) 517-6400
Central Regional Office • 1990 East Gettysburg Avenue • Fresno, California 93726-0244 • (559) 230-5900 • FAX (559) 230-6061
Southern Regional Office • 2700 M Street, Suite 275 • Bakersfield, California 93301-2370 • (661) 326-6900 FAX (661) 326-6985

**San Joaquin Valley
Unified Air Pollution Control District**

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

1 . T Y P E O F P E R M I T A C T I O N (Check appropriate box)

☒ SIGNIFICANT PERMIT MODIFICATION
☐ MINOR PERMIT MODIFICATION

☐ ADMINISTRATIVE
AMENDMENT

COMPANY NAME:	FACILITY ID: —
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner:	

11. COMPLIANCE CERTIFICATION (Read each statement carefully and initial **all** circles for confirmation):

☐ ☐ ☐ ☐ Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s). Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis. Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted. Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the foregoing is correct and true:

Signature of Responsible Official

Date

Name of Responsible Official (please print)

Title of Responsible Official (please print)

Invoice Detail

Facility ID: S1135

AERA ENERGY LLC
HEAVY OIL WESTERN STATIONARY SOURCE
KERN COUNTY, CA

Invoice Nbr: S58622
Invoice Date: 1/18/2006
Page: 1

Application Filing Fees

Project Nbr Permit Number	Description	Application Fee
S1055604 S-1135-224-23	MODIFICATION OF 75 MW COGENERATION UNIT A WITH GE MODEL G7111E FRAME 7E GAS TURBINE ENGINE WITH DRY LOW NOX COMBUSTORS AND SELECTIVE CATALYTIC REDUCTION (SCR) AND UNFIRED HEAT RECOVERY STEAM GENERATOR (HRSG): REPLACE COMPRESSOR SHELL AND ROTOR AND INCREASE HEAT INPUT RATING AND POWER OUTPUT RATING	\$ 60.00

Total Application Filing Fees: \$ 60.00